



Town of Nags Head

Land and Water Use Plan 2000



Town of Nags Head
P O Box 99
Nags Head NC 27959
252-441-5508

Town of Nags Head

Land and Water Use Plan 2000

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Katie Thompson

Town Staff

J. Webb Fuller, Town Manager
Gary E Ferguson, Planning Director
Bruce Bortz, Planner
Carole Lewallen, Planning Technician

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Chapter 1.

Introduction: Overview of Nags Head and the Land and Water Use Planning Process

The Town of Nags Head is a unique and attractive resort community on the Outer Banks of North Carolina. A number of characteristics make it an attractive place to live or vacation. Among them are its proximity to water and beaches, its abundance of open spaces, its generally low density of development, and the overall quality of its natural environment. Nags Head is primarily an ocean and sound oriented community. The Town is fortunate to have significant natural resources, including the ocean and its beaches, the sound, a complex natural area called Nags Head Woods (consisting of stable, productive marshlands, fresh water ponds, and steep migrating and stabilized dunes), and unique geological features like Jockey's Ridge. Nags Head is a recreational wonderland, closely tied to its natural environment.

Nags Head, from its early beginnings in the 1800s, has consisted predominantly of single-family cottages and a few hotels. Family operated businesses and cottage courts made up the commercial sector of Nags Head. These factors contributed to a certain charm, and a slow and relaxed pace of life. The Town has been and still is an annual vacation spot for a countless number of families who make repeat visits from their hometowns. For many visitors and residents, Nags Head is a "family beach."

Nags Head has been slow to develop when compared to other resort and vacation areas along the east coast, e.g., Myrtle Beach, South Carolina; Ocean City, Maryland. This slow growth has partly been a result of the remoteness of the Town. However, like all of the Dare County beach communities, Nags Head, especially during the mid- to late-1980s, experienced tremendous growth and development pressures. As an indication, the permanent population increased 80 percent from 1980 to 1990. The most significant growth pressures in the Town are, and will continue to be, generated by seasonal resort development. The task the Town is now facing is how to balance the needs of residents, visitors, and the tourist industry, and not destroy those natural and cultural features which have made Nags Head an attractive place to live and visit. The Town currently has over 3,000 single-family dwelling units. Of that number 18 percent were built before the advent of modern storm resistant building codes. As more redevelopment and renovation occur, the Town will need to seek measures to maintain the character of the existing housing stock.

To accomplish this, the Town must seek measures (retrofitting techniques and careful monitoring of our existing housing during periods of renovation) to ensure that the existing pattern and character of Nags Head will be enhanced.

The 1990 Land Use Plan Survey of the attitudes of residents and property owners found that most were in agreement that Nags Head should remain a family-oriented beach. This belief was again confirmed in the 1996 Land Use Plan Survey. The results from both surveys highlighted the level of importance that residents and non-resident property owners place on the quality of the natural environment, including such things as access to beaches and the protection of open space in the Town. Yet the growth pressures which Nags Head is currently experiences indicate that the Town has been “discovered,” and that this discovery puts in jeopardy many of the features and characteristics that make the Town such an attractive place in which to live and vacation.

The local planning requirements of the North Carolina Coastal Area Management Program (CAMA) provide the framework in which to analyze and project these future growth pressures, identify the problems and concerns they raise, and develop appropriate policies and actions for dealing with them. CAMA mandates that coastal localities update their land use plans at least every five years, and what follows in this plan is the result of the updating process. Nags Head is truly at an important juncture and this plan update must provide essential direction and guidance for managing Nags Head’s growth, both in the short and long terms. It is important to recognize that even if this planning effort was not required under CAMA provisions, the Town would still have undertaken it.

This plan will differ somewhat from the traditional land use plan produced as a result of CAMA regulations. Within this land use plan we will present an “Ocean Beach Plan” and an “Estuarine Plan.” Both the ocean beach and estuarine plans will look comprehensively at all the issues-both land based and water based in each of these unique areas of the Town. Those policies, regulations, and rules which may be applicable to the ocean beaches and oceanfront, may not be applicable to the estuarine areas of the Town. Each plan will address all the land use and water use components and concerns of each area and suggest measures to enhance each area.

With previous plans most of the planning emphasis and policy development have been placed on land based planning. However, in this plan we will also address water use planning, and accordingly this plan is entitled “The Nags Head Land and Water Use Plan.”

The Town considers the following CAMA guidelines regarding resource production and management issues not applicable and relevant to Nags Head at this time and they will not be discussed in the plan:

1. Productive agricultural lands.

2. Existing and potential mineral productive areas, such as land-based commercial mining of sand.
3. Peat or phosphate mining and industrial impacts on any resource.
4. Pocosins.
5. Restrictions (above and beyond CAMA, Corps and FEMA regulations) of development within areas up to five feet above mean high water that might be susceptible to sea level rise and wetland loss.

The Town considers the following types of development as not desirable in Nags Head and they will not be permitted:

1. Dry-stack boat storage
2. Floating homes.
3. Large (more than ten boats) commercial boat marinas.
4. Finger canals.
5. Upland excavation for boat marinas.
6. Forestry practices in Nags Head Woods (SED-80).
7. Mooring buoys to accommodate transient visitors.

The essential purpose of this plan is to permit Town officials to make the most deliberate and informed decisions as possible about future growth. The plan attempts to comprehensively analyze the likely impacts of growth, identify Town goals with respect to these impacts, and present policies and actions to manage this growth consistent with these goals. This plan will be used and referenced in future land or water use decision-making, and in particular by several key sets of local actors: the Board of Commissioners, Planning Board, Board of Adjustment, and the Town's Department of Planning and Development. In addition, the Board of Commissioners has appointed a Citizens' Advisory Committee to collect public opinion on planning, as well as other issues, and to act as liaison between the Board of Commissioners and citizens in the community.

While the following plan represents the codification of Town policies at one point in time, the Town's Land and Water Use Plan is dynamic and evolutionary. Numerous land and water use decisions are made each month.. Hopefully, this plan provides the basis for understanding the implications of future land and water use decisions (including failing to take action), and will serve as an overall framework for guiding future decisions by the Town.

The Town of Nags Head is somewhat unusual in that the policies in the Land and Water Use Plan serve as a five-year work plan. The adopted policies are prioritized, and time tables and goals are established for their implementation.

While CAMA regulations require that the Town address development and land and water use issues, those same regulations do not require that towns or counties follow through and implement the adopted policies.

In considering policy development, the Town carefully addresses each policy area. Not only are the positive aspects of a policy considered, but negative concerns are also recognized. Not all policies are implemented. Sometimes after thoughtful discussion with various boards and citizens, or after considerable research by staff, it is found that the implementation of a particular policy may not be practical for any number of reasons. The Town places great emphasis on the planning process, that is, a willingness to commit time, energy, and money to gather information, identify the problems, develop goals and objectives, identify and discuss alternative solutions, select a plan of action, and implement the plan. In Nags Head the process does not stop with implementation of a policy or goal. There is continuous monitoring and adjusting to fine-tune any plan or ordinance.

Some significant ordinances and policies adopted since the 1985 Land Use Plan are: (1) The Village at Nags Head Development Standards; (2) Environmental district regulations for SED-80; (3) Lot coverage requirements; (4) Hotel and multi-family development standards; (5) Hurricane Mitigation and Reconstruction Plan; (6) Facility Fees Ordinance; and (6) Capital Improvements Plan. Significant ordinances, plans, and policies adopted since the 1990 Land use plan include: (1) Participation in the Community Rating System, (2) Adoption of a Comprehensive Stormwater Management Plan, (3) The Commercial-Outdoor Recreational Uses Overlay District zoning regulations; and (4) The 1997 Model Mitigation Plan. (In 1998, the Town adopted extensive regulations on sexually Oriented Businesses and Personal Watercraft.)

- Organization of the Plan

The central theme for this plan centers around and uses the Town's Mission and Vision statements adopted by the Board of Commissioners on June 4, 1997. The Mission and Vision statements are simply that, a statement and vision on how the Board of Commissioners feels the Town should be developed and what principles and values should guide that development. The Mission and Vision statements are located in chapter 2.

The plan begins with a review, district by district, of the characteristics and uniqueness of each district along with some basic facts about development in each district. Next is an analysis of population followed by an analysis of development trends in the Town, and the implications of this growth and build-out scenarios (Chapter 5). Chapter 6 examines the different dimensions of growth which can be modified to address local goals, and the alternative approaches to growth management which might be used to accomplish this.

This chapter also provides specific examples of how the impacts of growth can be altered through growth management intervention.

Chapters 7 and 8 represent the Ocean Beach Plan and the Estuarine Plan. Both plans will discuss management of our ocean and estuarine resources and shoreline, growth pressures, and development patterns as well as concerns and issues which affect these areas specifically. Much of the information developed in these chapters will draw upon data developed and reported in other chapters of the Land Use Plan.

Hurricane and storm mitigation is covered in chapter 9. Chapter 10 discusses traffic and transportation. Chapters 11 and 12 covers wastewater and stormwater control.

Chapters 13 through 20 provide specific discussions of particular substantive policy areas of relevance in Nags Head. These chapters discuss subjects such as water supply and distribution, economic development, housing, aesthetics, resources, recreation and open space, Nags Head Woods, police and fire protection, solid waste and public participation. Each of these chapters is structured in the same way, beginning with a background discussion, the delineation of a community goal, and finally the preparation of a fairly detailed set of land use policies to advance the goal.

Chapter 22 (*Special Development Issues*) outlines issues of special concern: adult entertainment, personal watercraft, comprehensive planning, and community appearance.

Chapter 23 offers a brief review of progress the Town has made to date regarding implementation of the 1990 Land Use Plan policies.

Chapter 24 (*Policies and Implementation Methods*) analyzes the policies identified in previous chapters for their ability to advance a number of community goals simultaneously. From this analysis, a list of more specific implementation activities is prepared. Finally, Chapter 25 discusses the Town's land classification system.

Chapter 2.

Mission Statement and Vision Statement

The central theme for this plan centers around and uses the Town's Mission and Vision Statements adopted by the Board of Commissioners on June 4, 1997. The Mission and Vision Statements are simply that, a statement and vision on how the Board of Commissioners believes the Town should be developed and what principals and values should guide that development.

The following is the mission statement and vision statement adopted by the Nags Head Board of Commissioners.

THE TOWN OF NAGS HEAD MISSION STATEMENT

The mission of the Town of Nags Head is to provide for the health, safety and welfare of the citizens, property owners and visitors of the town, to fulfill the requirements placed on it by the State of North Carolina and to facilitate the achievement of community goals by providing municipal services in a flexible, cost effective, customer friendly manner and to achieve this through an open, consensus driven process that treats all with respect.

THE TOWN OF NAGS HEAD VISION STATEMENT

The Town of Nags Head is working to build a community populated by diverse groups whose common bond is a love of the Outer Banks. We recognize that the Town must be a good place to live before it can be a good place to visit. We recognize that those who have lived on this land before us have forged our path and that we must learn from them and respect their memory. We recognize that our natural environment is an integral part of our community and must be considered in all decisions. We recognize that in order to secure this future we must work together, treating all with respect and providing all with justice, keeping our common goals in front of us and our petty differences behind us.

The Town of Nags Head is working to build a community with an economy based on family vacation tourism. The base of that

economy is the rental of single-family homes. Important elements in developing and maintaining this economy are

- An oceanfront beach that is accessible and usable, not blocked by large structures.
- A natural environment typified by clean waters and the natural landscape of sand dunes and salt tolerant vegetation.
- Commercial services provided by locally owned and operated businesses that share in the building of our community.
- Recreational amenities and attractions, both commercial and non-commercial, that are wholesome and appeal to a broad spectrum of family members.

Chapter 3.

Zoning District Review

Zoning is the basic means of land use control. The State of North Carolina delegates the authority to counties and municipalities the power to zone, subdivide land and establish development regulations. Zoning imposes different controls and regulations on each district. The Town's zoning ordinance specifies allowed and conditional uses, the intensity or density of each use, and other regulations. Zoning is usually coordinated with a land development plan, such as a land use plan. Together, they form the framework for the Town's development.

The Town of Nags Head has ten zoning districts (see map 1) and several areas of extraterritorial jurisdiction. Some of the districts such as R-1, R-2 and R-3, are set aside primarily for residential development. Districts such as the C-2 District allow a mixture of commercial and residential uses, while other districts, such as the C-3 (Commercial Services District), are very limited in what commercial uses will be allowed.

What follows is a review of each of the Town's zoning districts. Many of these districts will cover several separate and distinct areas within the Town. As an example, the R-2 encompasses some areas west of South Croatan Highway as well as most of the areas in South Nags Head along the oceanfront. The development characteristics and growth pressures for each area will be somewhat different. The Beach and Estuarine Plans will examine their respective zoning areas in more detail than presented here.

- **R-1: Low Density Residential District**

The R-1 District is intended to encourage the development of low-density residential neighborhoods. There are two R-1 residential districts in Nags Head. One is along the oceanfront between Jockey's Ridge State Park and Diamond Street adjacent to South Virginia Dare Trail. Within this area there are approximately 46 homes listed in the National Registry of Historic Places. The other R-1 District area is off the Nags Head-Manteo Causeway and includes Pond Island, and portions of Cedar and Horse Islands.

The permitted uses in this district are limited to single-family dwellings and municipally owned public access facilities. Conditional uses are fire stations, private parks and clubs, and public utility facilities.

As noted in Table 3.1, there are approximately 58 acres of undeveloped land in R-1. A large portion of this undeveloped land (54 acres) is located on Cedar and Horse Islands, and the land areas on the south side of the Causeway near Pond Island. These tracts along the Causeway appear to contain a significant amount of wetlands. Excluding these parcels, there are ten lots available for development. With the exclusion of these parcels, 95.8 percent of the land area in R-1 is developed.

Table 3.1 Low Density Residential Districts (R-1)

Land Class	No. of Lots *	Acreage	Percentage of Total
Total Developed	106	73.83	55.97%
Total Undeveloped	17	58.08	44.03%
TOTAL	123	131.91	100.00%

* The number of lots represents lots which are devoted to a particular use. For **developed lots**, a use may occupy more than one lot. Total **undeveloped lots** represent all lots which are undeveloped regardless of lot area.

- **R-2: Medium-Density Residential District**

The R-2 District is intended to encourage the development of moderate-density residential neighborhoods with a mix of permanent and seasonal residents, and also to serve as a transition zone between the low-density areas and more intensely developed areas. There are three R-2 residential areas. The northern area is on the west side of Croatan Highway and includes Carolinian Colony (behind Kelly's Restaurant), Oak Knoll Estates, (behind the Surf Slide), Nags Head Acres, Vista Colony West (west of Ace Hardware) and the Hills at Nags Head subdivisions. The second area is west of US 158, between Soundside Road and the Outer Banks Mall and includes South Ridge (behind the Post Office) and Old Nags Head Cove subdivisions. The third area is generally south of Whalebone Junction and includes most of South Nags Head including the oceanfront.

Permitted uses in R-2 include single-family and duplex houses, and municipally owned public access facilities. Conditional uses include religious complex, fire stations, fishing piers, private parks and playgrounds, public utilities, and private clubs.

There are 881 acres in R-2; of that total, 61 percent is developed. Of the developed land, 92 percent of the land area is devoted to single-family and duplex residential uses. See Table 3.2.

Table 3.2. Medium Density Residential District (R-2)

Land Class	No. of Lots *	Acreage	Percentage of Total
Residential	1,604	490.93	55.73%
Cottage Court	17	25.54	2.90%
Multi-family	1	5.68	0.64%
Commercial	1	1.30	0.15%
Religious Complex	2	2.74	0.31%
Public-Government	9	4.30	0.49%
Private Recreation	3	3.88	0.44%
Public Utility	1	0.11	0.01%
Total Developed	1,638	534.48	60.67%
Total Undeveloped	794	346.52	39.33%
TOTAL	2,432	881.00	100.00%

* The number of lots represents lots which are devoted to a particular use. For **developed lots**, a use may occupy more than one lot. Total **undeveloped lots** represent all lots which are undeveloped regardless of lot area.

- **R-3: High Density Residential District**

The R-3 residential district is established as an area in which the principal use of the land is for high-density residential development. This district also provides for development of less intensive residential uses as well as compatible supporting uses. See Table 3.3.

Table 3.3. High Density Residential District (R-3).

Land Class	No. of Lots *	Acreage	Percentage of Total
Residential	331	56.18	48.27%
Commercial	1	0.47	0.40%
Public-Government	3	2.22	1.91%
Total Developed	335	58.87	50.58%
Total Undeveloped	69	57.50	49.42%
TOTAL	404	116.37	100.00%

* The number of lots represents lots which are devoted to a particular use. For **developed lots**, a use may occupy more than one lot. Total **undeveloped lots** represent all lots which are undeveloped regardless of lot area.

There are four R-3 areas within the town. The first two areas are in the northern part of town between Wrightsville and Memorial Avenue. One area is from Eighth Street to an area just past Atlas Street, and the other R-3 area is between Gallery Row and Abalone Street. The largest R-3 area is comprised of parts of Vista Colony, Vista Colony South (the area east of East

Carolina Bank), and most of the area south of Dowdy's Amusement Park between the highways. This includes the Enclaves subdivision, the area around Linda Lane, part of Nags Head Shores subdivision, and the Stronach Tract which is located between US 158, Fresh Pond Avenue, and Hollowell Street. The fourth area includes the Town Hall Complex, Hawk's Nest subdivision just to the south, and an unsubdivided parcel to the south of the Hawk's Nest subdivision.

There are 116 acres in R-3 of which 59 are developed. Of the developed acreage, 95 percent has been developed residentially primarily as single-family residences.

- **CR: Commercial Residential District**

The CR District is an area in which the principal use of the land is for intensive recreational purposes and for those types of developments which, by their nature, are best located in close proximity to the Town's ocean beaches. The district also provides for less intensive recreational uses as well as compatible supporting uses.

As of January 1, 1997, there are 34 lots remaining to be developed.

Table 3.4. Commercial Residential District (C-R).

Land Class	No. of Lots *	Acreage	Percentage of Total
Residential	238	135.76	51.52%
Cottage Court	18	9.86	3.74%
Multi-family	14	27.70	10.51%
Hotel	26	52.61	19.97%
Commercial	9	12.43	4.72%
Public-Government	1	2.42	0.92%
Total Developed	306	240.78	91.38%
Total Undeveloped	34	22.71	8.62%
TOTAL	342	263.49	100.00%

* The number of lots represents lots which are devoted to a particular use. For **developed lots**, a use may occupy more than one lot. Total **undeveloped lots** represent all lots which are undeveloped regardless of lot area.

All of the CR district is along the oceanfront and is comprised of four areas. The first area is from Eighth Street south to the 3800 block (near Jockey's Ridge State Park) of Virginia Dare Trail. The next area extends from an area just south of Diamond Street to the Quay Condominiums. The third area is between Sea Pointe subdivision (across from the Town Municipal Complex) and the Epstein regional beach access. The last area, and the most intensively developed, extends from the southern boundary of The Village at Nags Head

tract at Forrest Street south into South Nags Head, ending approximately 600 feet south of Huron Street.

- **C-2: General Commercial District**

The C-2 District is established to provide for the proper grouping and development of commercial facilities to serve the entire community.

The C-2 District is 465 acres in size and is distributed in several areas throughout the town. The northernmost portion of C-2 is along both sides of US 158 from Eighth Street to Villas Dunes Drive on the west and from Eighth Street to Dowdy's Amusement Park on the east side of US 158. Another section of C-2 is between Memorial Avenue, Fresh Pond Drive and Virginia Dare Trail. The largest section of C-2 is between US 158 and Virginia Dare Trail from Jockey's Ridge State Park south to South Nags Head. Another section of C-2 is on the west side of US 158 from the southern boundary of The Village at Nags Head south to the Nags Head-Manteo Causeway. The last C-2 area is along both sides of the Causeway. See Table 3.5.

Table 3.5. General Commercial District (C-2).

Land Class	No. of Lots *	Acreage	Percentage of Total
Residential	254	60.91	12.84%
Cottage Court	7	2.93	0.62%
Multi-family	11	1.54	0.32%
Hotel	13	16.61	3.50%
Commercial	140	167.13	35.21%
Religious Complex	3	5.83	1.23%
Public-Government	13	6.34	1.34%
Commercial Outdoor Recreation	19	57.36	12.09%
Public Utility	2	1.91	0.40%
Total Developed	462	320.56	67.55%
Total undeveloped	247	154.06	32.45%
TOTAL	709	474.62	100.00%

* The number of lots represents lots which are devoted to a particular use. For **developed lots**, a use may occupy more than one lot. Total **undeveloped lots** represent all lots which are undeveloped regardless of lot area.

- **C-3: Commercial Services District**

The commercial services district was established to provide for location of commercial services which are required for the development of Nags Head.

Examples of commercial services include wholesale food and beverage storage and distribution, building contractors' offices, and storage facilities which are required elements of a self-sufficient community. It is the intent of this designation to regulate and buffer such uses so that their location will not be detrimental to adjacent uses, the environment, and any source of potable water or groundwater.

As noted in Table 3.6 there is one C-3 Commercial Services District and that is located west of the Satterfield Landing Shopping Center (Food Lion), between Eighth Street to the north and Carolinian Colony subdivision to the south. The district is 29.7 acres in area and is 89.5 percent developed. This is the only district in Nags Head which does not permit single-family houses. The Town owns 6.64 acres on which the Public Works Department, Water Plant and the Fresh Pond are located.

Table 3.6. Commercial Services District (C-3)

Land Class	No. of Lots *	Acreage	Percentage of Total
Residential	1	0.46	1.55%
Commercial	10	19.52	65.66%
Public-Government	3	6.64	22.33%
Total Developed	14	26.62	89.54%
Total undeveloped	3	3.11	10.46%
TOTAL	17	29.73	100.00%

* The number of lots represents lots which are devoted to a particular use. For **developed lots**, a use may occupy more than one lot. Total **undeveloped lots** represent all lots which are undeveloped regardless of lot area.

- **C-4: Village Commercial District**

The Village Commercial District is intended to permit the development of residential areas of low-to moderate-density with a mixture of professional commercial activities of limited size. It is also the intent of this district to attract permanent residents and to allow small scale business operations normally expected to produce a low volume of traffic. "Gallery Row" typifies the C-4 district.

There is one C-4 District. The district is located in an area just south of Atlas Street extending to an area just south of Gallery Row, and is between Wrightsville and Memorial Streets. The district is 5.7 acres in size and is 68.4 percent developed (Table 3.7). There are four lots (1.81 acres) available for development.

Table 3.7. Village-Commercial District (C-4)

Land Class	No. of Lots *	Acreage	Percentage of Total
Residential	3	1.28	22.34%
Commercial	7	2.64	46.07%
Total Developed	10	3.92	68.41%
Total undeveloped	4	1.81	31.59%
TOTAL	14	5.73	100.00%

* The number of lots represents lots which are devoted to a particular use. For **developed lots**, a use may occupy more than one lot. Total **undeveloped lots** represent all lots which are undeveloped regardless of lot area.

- SPD-20: Special Planned Development District

The Special Planned Development District was created to permit development that is compatible with the environmentally sensitive nature of the unique coastal land forms contained in this district. The largest portion of this district contains Jockey's Ridge State Park which has been designated by the North Carolina Coastal Resources Commission as a unique coastal geologic formation area of environmental concern and as a National Natural Landmark by the United States Department of the Interior. The northwestern portion of the district borders on Nags Head Woods, a maritime forest. This district is characterized by unique topographical and vegetative features including vegetated and unvegetated dunes, migrating sand dunes, as well as a pine forest.

There is one SPD-20 District which encompasses the North Ridge subdivision, the Villa Dunes subdivisions (west of the Outer Banks Worship Center) and the Villas Townhouses as well as and Jockey's Ridge State Park.

Table 3.8 Special Planned Development District (SPD-20)

Land Class	No. of Lots *	Acreage	Percentage of Total
Residential	137	71.23	13.32%
Religious Complex	2	9.95	1.86%
Public-Government	17	417.20	78.05%
Total Developed	156	498.38	93.23%
Total Undeveloped	94	36.18	6.77%
TOTAL	250	534.56	100.00%

* The number of lots represents lots which are devoted to a particular use. For **developed lots**, a use may occupy more than one lot. Total **undeveloped lots** represent all lots which are undeveloped regardless of lot area.

The SPD-20 District is 534.6 acres in size with 417 acres in public and governmental ownership (Jockey's Ridge State Park). The predominant use in the district, apart from the State Park, is residential. There are 90 lots which meet the Town's development criteria for single-family homes with some vacant parcels within or adjacent to Jockey's Ridge State Park. See Table 3.8

- **SED-80: Special Environmental District**

Nags Head Woods is an irreplaceable maritime forest occupying the northwest corner of Nags Head. The Woods was the home of the first settlers in the area. Nags Head Woods is one of a few remaining maritime forests in North Carolina. The Woods is also environmentally significant because of its natural role in the integrity of the coastal region, and in 1974, Nags Head Woods was designated by the United States Congress as a National Natural Landmark.

As noted in Table 3.9 the SED-80 District is 972.6 acres in size. Of this area, 302.8 acres are in public governmental ownership—386.5 acres are owned jointly by The Nature Conservancy and the Town and an additional 25.7 acres are owned by the Nature Conservancy. Thus, approximately 715 acres (73.5 percent) are owned by either the Town or The Nature Conservancy.

Table 3.9. Special Environmental District (SED-80).

Land Class	No. of Lots *	Acreage	Percentage of Total
Residential	8	60.75	6.25%
Commercial	2	16.18	1.66%
Religious Complex	1	0.26	0.03%
Public-Government	4	302.79	31.13%
TNC/Nags Head Woods	1	386.54	39.74%
Total Developed	16	766.52	78.81%
Total undeveloped	30	206.04	21.19%
TOTAL	46	972.56	100.00%

* The number of lots represents lots which are devoted to a particular use. For **developed lots**, a use may occupy more than one lot. Total **undeveloped lots** represent all lots which are undeveloped regardless of lot area.

Due to the remoteness of the area and the fact that any new subdivision of land would require the construction of a paved road from an exiting street in Nags Head and that town water would need to be brought in, any future subdivision of the land into 80,000 square foot lots is unlikely. However, there are two parcels which could meet the State subdivision exemption for lots greater than 10 acres. This State exemption would result in a net increase of three lots. In total there are 28 lots which meet the town's current

standards (for land area or conforming lot of record status) for single-family houses. Currently there are eight single-family dwellings in SED-80. Access is either provided by private agreement through an access driveway near the Villas Condominiums or by the only public road—Nags Head Woods Road from Kill Devil Hills.

- **SPD-C: Special Planned Development-Community District**

The Town has one SPD-C District and that is The Village at Nags Head. Planning for The Village at Nags Head Special Planned Development-Community District began in the 1970's. The original plan was amended and adopted by the Nags Head Board of Commissioners on June 1, 1981. At that time the land was under the ownership of the Epstein family and was known as the "Epstein Tract." The Epstein heirs sold the tract to Home Savings and Loan of Rocky Mount (HSL) in 1984. The Ammons Dare Corporation purchased the tract from HSL in early 1986. On July 16, 1986, the Town approved the Master Plan and Development Standards for The Village at Nags Head. This Master Plan established development and density standards for The Village at Nags Head. The Master Plan was later amended and became part of the Town's Zoning Ordinance on November 3, 1993. The Village at Nags Head has established architectural review standards (homeowners' enforcement), a State approved stormwater control plan as well as buffering and vegetation standards. In addition, the Village has a central wastewater treatment plant, a 100-acre golf course, two private sound access sites, and two private ocean access areas.

The Village at Nags Head is centrally located between the Atlantic Ocean and Roanoke Sound, with Old Nags Head Cove subdivision to the north and Forrest Street to the south. There are approximately 373 acres in SPD-C. The Town Hall complex, Hawk's Nest subdivision and a portion of the oceanfront from the Town Hall beach access to Epstein Street regional beach access site are not located in the SPD-C zoning district.

The 1986 Master plan established five single-family designations, three multi-family designations, two hotel districts, two commercial areas, a beach and tennis club, a golf course, sound access areas, Sea Pointe duplex standards, and numerous areas designated as open space. The Master Plan also establishes standards for an institutional district and Townhouse 1 District standards. While multi-family and hotel standards were developed, no multi-family or hotel buildings (other than the Quay, which was built before 1986) have been built. The residential density has been less than what was originally approved in the 1986 Master Plan. To date, there are 598 lots created for residential (single-family and duplex) development. Of those 598 lots, 218 are undeveloped. In addition, parcels L-1 and L-2, between the Outer Banks Mall and Old Nags Head Cove, which have not been subdivided,

are the last remaining residential parcels. The approved Master Plan allows for a maximum of 101 dwelling units on these parcels.

In addition to the undeveloped residential lots, there are three undeveloped parcels (6.7 acres) in the Commercial 1 District and 9 undeveloped parcels (9.4 acres) in the Commercial 2 District. The Small Hotel Parcel (6.1 acres) remains undeveloped.

Table 3.10. Special Planned Development-Community District (SPD-C).

Land Class	No. of Lots *	Acreage	Percentage of Total
Residential	387	95.13	25.53%
Multi-family	1	6.54	1.76%
Commercial	12	24.19	6.49%
Public-Government	3	2.89	0.78%
Private Recreation	9	138.13	37.08%
Private Access	3	5.07	1.36%
Public Utility	2	7.24	1.94%
Miscellaneous	1	2.66	0.71%
Total Developed	418	281.85	75.65%
Total undeveloped	291	90.72	24.35%
TOTAL	709	372.57	100.00%

* The number of lots represents lots which are devoted to a particular use. For **developed lots**, a use may occupy more than one lot. Total **undeveloped lots** represent all lots which are undeveloped regardless of lot area.

* NOTE: The 290 lots reported in Table 3.10 as undeveloped represent 218 residential lots, 3 lots in Commercial 1 District, 9 lots in Commercial 2 District and 3 hotel parcels. The remaining 58 lots represent various miscellaneous parcels of open space. Some of the open space has been dedicated to the town while the remainder is under control of one of the homeowners associations. (See Table 3.11)

Table 3.11 The Village at Nags Head Lots available for development					
Residential		Commercial 1	Commercial 2	Hotel	Total
Existing	Potential				
218	101 *	3	9	3	333

* L-1 and L-2

When the Master Development Plan was approved in 1986, it allowed for a maximum of 1,200 dwelling units in The Village. To date there are 218 lots undeveloped in the Village at Nags Head. Some of the undeveloped lots allow for duplexes; however, except in Sea Pointe, only five duplex dwellings have been built within The Village. Parcels L-1 and L-2, the last remaining parcel to be subdivided, had an approved density of 101 dwelling units. As of January 1, 1997, 395 lots have been developed residentially, another 218 remain undeveloped, and with the development of L-1 and L-2, a total of 714 lots could be developed primarily as single-family residences. At build-out, the total number of dwelling units resulting from these 714 lots will be much less than the 1,200 dwelling units approved in the Master Plan. The Village Commercial 2 Zoning District does not permit residential development in that district.

- **Ocean and Sound Waters Zoning District-Extraterritorial Jurisdiction (ETJ)**

The General Statutes of the State of North Carolina allows municipalities to extend zoning and planning jurisdiction into unzoned county areas up to one mile beyond their municipal boundaries. Nags Head has established extraterritorial jurisdiction one mile out into the Atlantic Ocean, one mile west of the Town's estuarine shoreline, one mile south of US 64-264 on the Causeway, and one mile west of the Town boundary line in South Nags Head. With the exception of land within the Cape Hatteras National Seashore and some islands in the sound, the remainder of the ETJ area is water.

The Ocean and Sound Waters District was established to provide for the proper use of the ocean and sound waters, including islands, that adjoin the Town to ensure the continued scenic, conservation and recreational value that these waters provide to the Town, its residents, visitors and surrounding area. Uses allowed within this district include: non-commercial recreational activities, commercial recreational activities that are land based in Nags Head, single-family dwellings, piers and docks as well as customary accessory uses. The Town does not view "floating signs" and signs on islands as appropriate uses.

There are currently three "fish camps" or single-family dwellings on islands in Roanoke Sound within our ETJ area. These three structures have existed on these islands for a number of years.

Chapter 4.

Demographics

This chapter begins by looking at statistics concerning the growth of the permanent population of the Town. It goes on to analyze the availability of land for future development, current development and building trends, and projects peak levels of development and population growth under total permissible build-out.

- **Population and Projections**

Because Nags Head was incorporated in 1961, census data is only available for 1970, 1980, and 1990. In 1970, there were only 414 permanent residents in the Town. By 1980 this population had more than doubled, and in the years between 1980 and July 1, 1985, the permanent population had increased an additional 80 percent.

Table 4.1 Population - Dare County and Nags Head 1960–1995				
Year	Dare County	% Increase	Nags Head	% Increase
1960	5,935			
1970	6,995	17.9%	414	
1980	13,377	91.2%	1,020	146.4%
1990	22,746	70.0%	1,838	80.2%
1995 ¹	25,758	13.2%	2,029	10.4%
Source: US Census data, unless noted.				
¹ Source: NC Office of State Budget and Management (July 1995)				
Miscellaneous population data:				
1. December 1996: 333 students from Nags Head enrolled in Dare County schools.				
2. November 1996 election: 1,487 registered voters in Nags Head.				
3. 2.76 persons per family.				

In 1990, Nags Head's population was 1,838 and in 1995 the population estimate for the Town from the Office of State Budget and Management was 2,026. Estimates of the permanent population for Nags Head from 2000 to the year 2020 are summarized in Table 4.2 below.

Table 4.2. Summary of Population Projections

Based on a 1995 population of 2,029

Year	Scenario 1.	Scenario 2.	Scenario 3.
1990	1,838	1,838	1,838
1995		2,029	2,029
2000	2,358	2,240	2,284 ¹
2005		2,473	2,540
2010	2,935	2,729	2,860 ¹
2015		3,013	3,180
2020	3,510	3,326	3,580 ¹

¹ Interpolated

Census and projection data: NC Office of State Planning.

In an attempt to estimate population growth, three scenarios were developed.

Scenario 1

Scenario 1 uses growth projections developed by the State Office of Budget and Management for Dare County through the year 2020. In 1990, Dare County's total population was 22,747. Eight percent or 1,834 individuals of the County's population can be attributed to residents of Nags Head. The State anticipated growth rate for Dare County from 1990 to 2000 is 28.3 percent, from 2000 to 2020, 24.5 percent, and the anticipated growth rate from 2010 to 2020, 19.6 percent. This scenario assumes that Nags Head's growth will continue to be 8.08 percent of the anticipated growth in Dare County

Scenario 2

Scenario 2 assumes that growth will be at the same growth rate observed between 1990 and 1995 which was 10.39 percent over the five-year period.

Scenario 3

Scenario 3 calculates growth projections using the growth rate of 25.2 percent which was the observed growth rate between 1985 to 1995.

All three projections produce similar results with a permanent population in the year 2020 ranging from 3,326 to 3,580.

Permanent population does not, however, capture the real growth pressures that will be placed on the Town of Nags Head. Rather, Nags Head is a resort community, which experiences dramatic increases in seasonal population during the summer months. The problems of growth which the Town must address in the future are generated by this seasonal component of the population along with the residential and commercial development produced to accommodate it.

- **Seasonal Population**

Making certain assumptions about the number of individuals residing in each dwelling unit and hotel/motel room in the Town allows us to estimate the

potential seasonal peak population. Table 4.3 presents the methodology and calculations for this procedure. The results indicate that under existing development, peak daily summer population can exceed 34,500 people.

Table 4.3. Estimated current peak visitor and resident population			
Existing dwelling units as of January 1, 1997			
Land Use	DUs	Intensity Persons/DU	Peak Population ²
Single-family/duplex ¹			
Pre-1991	2,580	8	20,640
Post-1991	549	10/20 ²	5,490/10,980
Multi-family	319	6	1,914
Cottage courts	324	6	1,944
Hotel	1,308	3.5	4,578
Total	5,080		34,566/40,056
¹ From 1991 to 1996 the average single-family dwelling has increased from 3.8 bedrooms to 4.8 bedrooms.			
² To provide a greater range of occupancies, occupancy for single-family and duplex is based upon two individuals per bedroom and an estimated occupancy of 20 individuals per dwelling unit.			

The estimated number of residents and visitors during the peak period, e.g., when hotel/motel rooms are at full occupancy, is in stark contrast to the 2,029 or so permanent residents in the Town. It is clear that it is this peak or maximum population which must be considered for planning purposes. In addition, the number of visitors during the spring and fall months has increased substantially in the last few years.

To accommodate this summer peak population, there are over 5,000 restaurant seats, nearly 760,000 square feet of retail structures, and over 380,000 square feet of service establishments along with offices and warehousing.

- **Build-out Population**

As Nags Head continues to grow and develop, the size of its peak population will grow as well. The analysis of land availability, permissible development, and building trends, allows us to estimate the extent of future peak population, and in turn demands placed upon the natural and man-made environments. Table 4.4 presents the likely peak population that would result from the maximum build-out, with the current composition of land uses.

Table 4.4. Approximate number of dwelling units at or near build-out

Potential DUs in 14 Years					
		DUs	Total DUs	Person/DU	Total # *
SF/Duplex	pre-1991	2580	2580	8	20,640
SF/Duplex	post-1991	549	549	10	5,490
SF/Duplex	post-1996		1526	10/20	15,260/30,520
Multi-family		319	168	6	2,922
Cottage courts		324	0	6	1,944
Hotel		1308	140	3.5	5,068
Total		5080	1834	6914	51,324/66,584
SF/Duplex=109 du/yr		M/F =12 units/yr		Hotel =10 units/yr	
* To provide a range of occupancies, occupancy for single-family and duplex is based upon two individuals per bedroom and an estimated occupancy of 20 individuals per dwelling unit.					

This projection can then be used to estimate the impacts on public services and facilities. For instance, Table 13.1 indicates that water consumption under future total build-out will increase by over 42 percent, from 2.12 to 3.03 million gallons per day. Water consumption units (WCUs) represent a fixed quantity of water (400 gallons per day) used as a standard to establish the daily water consumption of various land uses.

- Age Distribution

Some general conclusions can be drawn from the age class differences between the 1970, 1980 and 1990 census data. In 1970, approximately 47 percent of the population was 45 years old or older, however, in 1980, 43 percent of the population was 45 years old or older.

In 1990, 39 percent of the population was 45 years old or older, thus for the last three census periods the percentage of adults over 45 has been decreasing from 47 percent in 1970 to 39 percent in 1990. Individuals over 65 was 11.59 percent in 1970, 11.47 percent in 1980 and increased to 14.42 percent in 1990. While the number of residents over 65 appears to be increasing, Britthaven Nursing Facility was built after the 1980 census and now has a capacity for 144 residents. The percentage of children nine years old and younger has changed little over the last three censuses from 11.59 percent in 1970, 8.73 percent in 1980, and 10.45 percent in 1990. In 1990 there were 187 students from Nags Head in Dare County Schools and by November 1996, that number had increased to 333 Nags Head students.

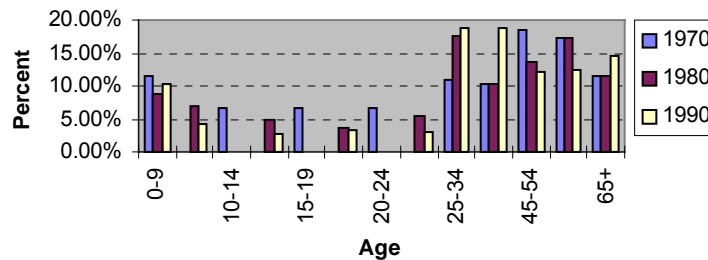
When comparing US Census data on age distribution from 1980 and 1990, several changes should be noted (Table 4.5).

Table 4.5. Population - Age Distribution.

Age	1970		1980		1990	
	Number	Percent	Number	Percent	Number	Percent
0 - 9	48	11.59%	89	8.73%	192	10.45%
10 - 15			71	6.96%	77	4.19%
10 - 14	28	6.76%				
16 - 18			49	4.80%	50	2.72%
15 - 19	27	6.52%				
19 - 21			38	3.73%	62	3.37%
20 - 24	28	6.76%				
22 - 24			56	5.49%	55	2.99%
25 - 34	45	10.87%	179	17.55%	344	18.72%
35 - 44	43	10.39%	105	10.29%	344	18.72%
45 - 54	76	18.36%	139	13.63%	221	12.02%
55 - 64	71	17.15%	177	17.35%	228	12.40%
65+	48	11.59%	117	11.47%	265	14.42%
Total	414		1,020		1,838	

The largest percentage of increase is in the age category 30-59. In 1980, 38 percent of the population was in this age group, while in 1990, 47 percent was represented by this age group. Another notable increase was in the number of persons over 85 years of age. In 1980, there were 4 individuals (0.39 percent) over 85, whereas in 1990, there were 47 individuals (2.7 percent) over 85 years old. A summary of population distribution by age for the census years 1970, 1980, and 1990 are shown in Table 4.6. Part of this increase in the over 85 category can be attributed to residents in Britthaven Nursing Home.

Table 4.6. Age Distribution.



- Summary

Based upon several population projections, Nags Head can expect by the year 2020 between 3,326 to 3,580 year round residents. While the resident population increases, so will the seasonal population as we approach build-out. By the year 2010, our seasonal population is expected to increase from the January 1, 1997 estimate of 34,566, to 51,324.

Chapter 5.

Assessing Growth and Development in Nags Head

- Introduction

Nags Head is growing and changing, and the primary purpose of this plan is to manage and guide these forces so that important values are protected and goals advanced. Past land use plans have established the baseline assumptions concerning future growth and provided an initial starting point for identifying local growth-related problem areas, the magnitude of these problems, and the urgency with which they need to be addressed.

While previous land use plans have focused primarily on regulating new growth and development, this plan will begin the focus on ways to manage and improve our existing development as we approach build-out. As remaining land becomes more limited and as our housing stock ages, the Town must make sure that when the marginal land is developed and the existing housing stock improved, that it is developed or improved in a fashion consistent with the Town's desire to retain the "Nags Head" image. As we near build-out, our focus needs to address our existing natural and man-made environment and how best to manage this environment to meet the needs of our citizens and visitors. What follows is a description of previous and anticipated land development patterns and trends.

- Dwelling Units

The following table delineates the number of dwelling units in the Town on January 1, 1997.

Table 5.1. Dwelling Units		
Existing dwelling units as of January 1, 1997		
Land Use	DUs	Percent
Single-family/duplex	3,129	62%
Multi-family	319	6%
Cottage courts	324	6%
Hotel	1,308	26%
Total	5,080	

- **Building and Development Trends**

Due to development on lots which were platted in accordance with earlier Zoning Ordinances or before the incorporation of the Town, the density that has occurred in Nags Head before 1980 has been higher than the density permitted by the current Zoning Ordinance. The typical minimum residential lot size has gradually increased from 7,500 square feet in 1962, to either 15,000 or 20,000 square feet today. Much of the current development is located on these smaller lots. The average lot size for single-family development from 1985 to 1996 is 12,000 square feet. As more of the older, smaller legal lots of record are used up, the average lot size will be increasing. As lots have increased in size so have the average houses (Table 5.2).

Table 5.2. Single-family Construction			
Average size and Average # of Bedrooms			
Year	Heated space	Decks, etc.	# bedrooms
1986	1,398.45	578.97	3.3
1987	1,559.08	689.61	3.4
1988	1,657.10	702.77	3.4
1989	1,763.63	802.66	3.4
1990	1,911.93	897.56	3.9
1991	1,893.71	799.33	3.8
1992	2,016.01	924.09	4.1
1993	2,020.94	903.13	4.1
1994	2,064.42	821.69	4.2
1995	2,496.37	1,043.74	4.4
1996	2,442.41	1,253.66	4.8

- **Commercial and Non-Residential Development**

Between 1974 and 1990 five major shopping centers were built (Surfside Plaza, 24,600 square feet; Nags Head Station, 18,000 square feet; Satterfield Landing, 44,700 square feet; Outer Banks Mall, 138,600 square feet; and Soundings Factory Outlets, 84,000 square feet). From 1990 to 1997 the following projects greater than 10,000 square feet in area were built: Ample Storage, Croatan Centre, Town of Nags Head Municipal Complex, Nags Head Hammock Warehouse, Village Playhouse, and the Cineplex . See Table 5.3.

To determine if the overall non-residential development activity has increased or decreased over the last 10 years, the square footage of non-residential development between 1985 and 1991, and between 1991 and 1996 were compared. Between 1985 and 1991, there was 327,324 square feet of non-residential development within the Town. Between 1991 and 1996, non-residential development accounted for 196,842 square feet. If the present trend

continues, we can expect the amount of non-residential development to decrease even further.

Table 5.3. Major Non-Residential Development 1991–1996		
Date	Sq Ft	Name
3/24/94	31,300	Ample Storage
12/4/95	27,562	Croatan Centre
12/12/95	19,348	Town of Nags Head Municipal Complex
11/27/91	16,235	Nags Head Hammock Warehouse
4/11/95	12,802	Village Playhouse
1/14/92	12,742	Cineplex
11/23/94	8,550	Woodhill Office Park
4/21/95	8,000	Nags Head Self Storage
12/6/91	6,474	Britthaven of The Outer Banks
3/29/96	5,880	Sand Castle Child Care Center
12/15/95	5,715	Captain Marty's
3/22/95	5,000	Maione's at Nags Head
3/24/95	4,793	White (Stan) Office Building
11/21/94	4,638	Albemarle Mental Health Center
11/13/91	4,000	Greenleaf Art Gallery
7/6/95	3,709	Kingdom Hall of Jehovah's Witnesses
12/19/90	3,459	Whalebone Surf Shop
1/7/94	3,204	T-Shirt Whirl
2/28/92	3,060	Dairy Queen
5/18/93	3,000	Basnight Appliance
11/27/95	2,856	Lighthouse Gallery & Gifts
7/5/90	2,826	Stop Quik
4/13/95	1,792	Waterworks Sports Center
7/19/93	1,440	Nags Head Woods Family Area
5/2/94	1,000	Family Watersports
4/15/94	966	Hargrove Bath House
1/26/93	936	FatBoyz
4/28/94	896	Nags Head Watersports
10/29/92	800	Nags Head Raceway
2/2/90	700	Village Private Beach Access
4/22/96	144	Nags Head Causeway Estuarine Access Site

As indicated on the existing land use map, nearly all of the commercial development has located along South Croatan Highway (US 158) and most of the multi-family and motel development has located on or near the oceanfront.

Tables 5.4 describes the building permit activity for residential, multi-family and hotel development over the last 21 years.

Table 5.4. Residential, Hotel and Multi-family Units					
Calendar Years 1975–1996					
YEAR	S/F	DUPLEX	M/F	HOTEL	TOTAL
1975	38	0	0	0	38
1976	79	2	12	3	96
1977	124	2	18	6	150
1978	127	0	7	0	134
1979	108	0	0	0	108
1980	103	10	30	2	145
1981	85	12	0	12	109
1982	68	22	43	10	143
1983	113	28	18	59	218
1984	143	6	15	29	193
1985	117	16	41	0	174
1986	112	4	41	100	257
1987	120	2	12	0	134
1988	171	8	0	0	179
1989	147	10	18	0	175
1990	73	12	0	0	85
1991	77	2	0	0	79
1992	97	0	0	6	103
1993	104	0	0	0	104
1994	86	0	0	0	86
1995	94	4	0	0	98
1996	84	0	0	0	84
AVERAGE	103	6	12	10	131

In the future, local seasonal economy will determine to some extent the number of new commercial establishments in Nags Head. As stated previously, many of the Town's basic services are now in place and we can expect to see a leveling off of commercial building activity over the next ten years. However as the year-round residential population increases, the need for additional services and office space also will increase, triggering new development to serve a larger permanent population. The commercial character of the Town has changed over the last fifteen years from a community with no large shopping centers, few restaurants and little office space to a community which can provide some of the amenities found in larger beach communities.

One measure of commercial activity would be to compare residential dwelling units (single-family and duplex) to the square footage of non-residential and commercial development. From 1979 through 1984 there were 454,373 square feet of non-residential development built at the same time 698 single-family and duplex units were built; thus, there were 651 square feet of commercial development built for each dwelling unit. For the period of 1985 through 1990, for every house built, 413 square feet of non-residential and commercial development occurred. From 1991 through 1996, this ratio was reduced to 359 square feet of commercial and non-residential development for every dwelling unit. If the past trend continues as the Town approaches build-out, for every single-family home built, less commercial and other development will occur.

- Land Availability

The Town of Nags Head contains approximately 4,300 acres (table 5.5). Of those 4,300 acres, approximately 500 acres represent rights-of-ways (ROW) and are not available for development. As of January 1, 1997, there were approximately 5,080 dwelling units in the Town, with the majority in low-density residential uses. In considering potential for development it is important to look at both developed acreage and the acres of unsubdivided land which can become lots which can accommodate single-family housing.

District	Acres Vacant	Acres Developed	Total developed/ vacant acres	Percent Developed	Total ROW	Total District
R-1	58.08	73.83	131.91	55.97	8.47	140.38
R-2	346.52	534.48	881.00	60.67	182.13	1,063.13
R-3	57.50	58.87	116.37	50.59	27.30	143.67
CR	22.71	240.78	263.49	91.38	31.69	295.18
C-2	154.06	320.56	474.62	67.54	154.47	629.09
C-3	3.11	26.62	29.73	89.54	4.63	34.36
C-4	1.81	3.92	5.73	68.41	0.50	6.22
SPD-C	90.72	281.85	372.57	75.65	72.00	444.57
SPD-20	36.18	498.38	534.56	93.23	33.78	568.34
SED-80	206.04	766.52	972.56	78.82	1.01	973.57
Total	976.73	2,805.81	3,782.54	74.18	515.98	4,298.51

As shown above there are 976 acres in the Town of Nags Head which are unplatted, undeveloped, privately owned and subject to development. Table 5.5

also points out that 2,805 acres have been developed, thus, excluding rights of ways, the Town is currently 74 percent developed.

• Potential Development

This section discusses potential development of the Town. Several assumptions are made: Nags Head will continue to develop primarily as a single-family community, there will be no zoning changes which will effect intensities or density of development, the current pattern of redevelopment will continue, single-family development will not involve the recombination of existing lots and there will be no major changes in State and Federal laws. Another assumption is that there will be no major storms or hurricanes which will cause extensive damage.

Continued new development and growth depend upon adequate amounts of land being available to accommodate the anticipated development. In the following sections, both the amount of land available as well as the number of lots to accommodate new growth will be examined. The relationship between acreage and lots is more important to commercial development than it is to residential development. In the General Commercial District (C-2), both commercial development and residential development are allowed and anticipating what types of growth will occur is problematic. For example, 10 acres of vacant land in the C2 district could either be developed as 29 single-family residences (unless they are currently subdivided into smaller lots) or as two lots where each could contain a 40,000-square-foot retail building with accompanying parking and other improvements.

Table 5.6. Lots available for development					
District	Undeveloped Parcels	Platted Lots	Potential New Lots	Lots Available for Development	Notes
R-1	10	10		10	
R-2	648	666	128	794	
R-3	67	72	98	170	
CR	33	34		34	
C-2	247	436	54	490	See Table-C-2
C-3	2	9		9	See Note 1.
C-4	4	6		6	
SPD-20	90	90		90	
SED-80	28	28	3	28	See Note 2.
SPD-C	231	231	101	333	See Table-Village
Totals	1360	1582	384	1964	See Note 3.

NOTES: Undeveloped=Lots > 5,000 sq ft, can meet CAMA regulations

Potential lots=Large parcels (area x 75% /lot area=number of lots)

Platted lots. Some parcels are composed of more than one platted lot.

Note 1. Single-family development not allowed in this district.

Note 2. Tillett Subdivision resulted in three non-conforming lots.

Note 3. This assumes: (1) no changes in dimensional requirements,
(2) no subdivision of C-2 into residential lots, and
(3) no recombination of existing lots.

Table 5.5 also summarizes land availability by district. Table 5.6 combines the undeveloped acreage in Table 5.5 and examines the number of platted lots and the potential for new lots meeting today's development standards for single-family houses.

Table 5.6 further points out that there are 1,964 existing and potential lots which appear to meet current development standards for single-family houses.

When compared to other districts, predicting growth in the C-2 District is more difficult given that the C-2 District is the Town's most permissive district in allowing for the greatest numbers of uses. Table 5.7 summarizes how acreage within the C-2 District has been developed over the last twelve years.

Table 5.7. Development pattern in the C-2 District over the past 12 years		
Land Use	Acreage	Percent
Govt	2.32	1.75%
Multi-family	1.07	0.81%
Office	6.59	4.98%
Public access	1.94	1.47%
Religious complex	0.83	0.63%
Restaurant	8.21	6.21%
Retail*	92.98	70.31%
Single-family	18.04	13.64%
Utility	0.26	0.20%
Total	132.24	100%
From 1985 through 1996.		
*Retail includes: Retail/office and retail/single-family combinations.		

Table 5.8 points out that within the C-2 District there are a remaining 154 acres of vacant land. Over the last twelve years, 132 acres of C-2 have been developed for various uses. For example, from 1985 through 1996, 86 percent of the land has been developed as retail and other uses and 14 percent of the land area has been developed as single-family residential. Table 5.8 also indicates that there are a number of larger parcels available to accommodate commercial development in the C-2 District.

For future development, C-2 is the most difficult district to predict what type of growth to expect in the coming years because the district allows both commercial and residential uses. Currently, 12.6 percent of the land in C-2 is developed residentially. Table 5.7 summarizes the existing land use composition over the last 12 years, and Table 5.6 details the availability of undeveloped parcels in C-2. Table 5.6 also indicates that there are approximately 490 existing and potential newly subdivided lots which can qualify for single-family development

Table 5.8. Undeveloped land in the C-2 District

	Undeveloped Parcels without		Undeveloped Parcels with		Total Undeveloped Parcels	
	Significant Wetlands		Potential Wetlands			
Range sq ft	Number	Acreage	Number	Acreage	Number	Acreage
<4,999	13	0.67	0		13	0.67
5,000-9,999	80	14.40	1	0.12	81	14.40
10,000-19,999	78	26.34	1	0.46	79	26.34
20,000-29,999	23	13.33	1	0.64	24	13.33
30,000-49,999	22	19.34	0		22	19.34
50,000-74,999	14	19.78	0		14	19.78
75,000-99,999	2	4.05	0		2	4.05
100,000-199,999	6	30.30	3	11.12	9	30.30
>200,000	2	25.86	1	10.35	3	25.86
Totals	240	154.07	7	22.69	247	154.07

- **Build-out Scenarios**

Determining when build-out will occur depends upon many variables, most of which are tied to the national and local economy. In an attempt to determine build-out, three scenarios will be used: (1) build-out according to historic records regarding the numbers of building permits issued by use, (2) build-out by looking at the number of lots available, and (3) build-out based upon the amount of vacant land available for development. Table 5.6 is a projection of the number of lots which may be developed for single-family use based upon the existing land use composition by district. For example, in the CR district, 82 percent of the land area has been developed residentially (single-family, duplex, multi-family, cottage court, and hotel/motel), and 18 percent of the land area has been developed for other uses. Therefore, the Town could expect 82 percent of the remaining 34 lots to be developed residentially. In this particular case, most of the remaining 34 lots would not be large enough for uses other than single-family and duplex. As Table 5.9 indicates, 1,560 lots could be anticipated for residential development based upon current land use composition.

Build-out by Permits

Over the last 22 years there have been an average of 109 single-family dwelling units constructed per year (Table 5.4.). Therefore, the 1,560 lots anticipated for single-family development would be used up in 14.3 years.

Table 5.9. Maximum build-out using current development standards and historical development patterns			
District	Potential Lots	Anticipated % to be developed residential	# S/F lots
R-1	10	100%	10
R-2	794	97%	770
R-3	170	98%	167
CR	34	82%	28
C-2	490	32%	157 ¹
C-3	9	0%	0
C-4	6	30%	2
SPD-20	90	88%	79
SED-80	28	100%	28
SPD-C ²	319	100%	319
Total	1,950		1,560
¹ 12-year average=13 S/F lots/yr and 1.5 ac/yr devoted to S/F development			
² 319 potential lots for residential development.			
Anticipated % = current district land use pattern			

Build-out by Acres

The C-2 District has 154 acres remaining to be developed. Historically, 86 percent of the acreage has been developed for uses other than residential and 14 percent has been developed as single-family and duplex. This amounts to 1.5 acres a year for residential and 9.52 acres a year for all other uses. Using these percentages, C-2 could support the current development intensities for fourteen years.

On average over the last twelve years, 48 acres per year townwide were developed. Of this total acreage, 31 acres were developed annually as residential and 17 acres were developed annually for commercial and other uses. Town-wide, there are 976 acres available for development, and based upon past development patterns, this amount would be used up in 20 years. However, not all of the 976 vacant acres would be applicable to development. For example, the SED-80 district has 206 vacant acres, but by previous analysis, only 28 single-family lots are possible for this area.

However as Table 5.10 indicates, based upon the current commercial development patterns continuing, the town will have available approximately 178 acres in the various commercial districts which will be used for uses other than residential. The 178 acres would be consumed in twelve years based upon the development patterns over the last twelve years. However, given the fact that there are several large retail shopping centers and much of the essential

community needs are in place, it is uncertain that the intensities observed over the last twelve years will continue for the next twelve years for non-residential development and that the amount of land developed for uses other than residential will be less than what has been observed over the last twelve years.

Table 5.10. Non-residential acreage by district			
District	Undeveloped Acres	% Commercial	Potential Comm Acreage
R-1	4	0	0.00
R-2	346.52	3%	10.40
R-3	57.5	2%	1.15
CR	22.71	18%	4.09
C-2	154.06	86%	132.40 ¹
C-3	3.11	100%	3.11
C-4	1.81	70%	1.27
SPD-20	36.18	12%	4.34
SED-80	206.04	0	0.00
SPD-C	90.72	24%	21.77
Total	922.65		178.53
¹ 86% (acreage) is developed commercially			

In summary, Table 5.10 indicates, based upon historical development patterns, that there could be 178 acres available for commercial use. Table 5.11 indicates that based upon historical development patterns, the 178 acres estimated in table 5.10 could be completely developed for non-residential uses in commercial districts in about 12 years (year 2008).

Table 5.11. Acreage (Town-wide) based on land use/per year						
Land Use	AC/YR	10 YRS	12 YRS	14 YRS	16 YRS	18 YRS
Commercial	14.07	140.7	168.84	196.98	225.12	253.26
Hotel	1.69	16.9	20.28	23.66	27.04	30.42
Multi-family	1.28	12.8	15.36	17.92	20.48	23.04
Duplex	1.12	11.2	13.44	15.68	17.92	20.16
Single-family	29.75	297.5	357	416.5	476	535.5
AC/YR	47.91	479.1	574.92	670.74	766.56	862.38
Includes The Village at Nags Head; excludes Village Links Golf Course						
Based upon 12 year average						

Many of the Town's commercial and community basic services are developed and if the past development trends continue build-out would occur 14 and 18 years.

Currently there are 5,080 dwelling units in Nags Head (Table 5.1.). Assuming that build-out will occur in approximately fourteen years and following the growth patterns observed over the last twelve years, an additional 1834 dwelling units (Table 5.12.) will be added, giving a total of 6914 dwelling units (assuming that there are no changes in zoning which would affect development intensities). Over the last five years, 390 acres of land in SED-80 have become unavailable for development due the acquisition by the Town and the Nature Conservancy. Currently there are approximately 22 acres of Commercial land in The Village at Nags Head. Of this acreage, residential development is allowed in the Commercial 1 district (6.74 acres) and the Hotel district (6.1 acres). Residential development, however, is not permitted on the 9.36 acres in the Commercial 2 District. Should the regulations change and depending upon what designation is applied to the Hotel and Commercial 1 district for single-family residential development, the Town could expect to see, anywhere from three dwelling units per acre to ten units per acre (66–220 additional units). Should multi-family development be allowed on these 22 acres the intensities range from 12 dwelling units per acre to 18 units per acre (264–396 dwelling units).

Table 5.12. Approximate number of Dwelling Units at or near build-out			
# DUs	Existing 1/1/97	Potential in 14 YRS	Totals
Sf/duplex	3129	1526	4655
M/F	319	168	487
Cottage courts	324	0	324
Hotel	1308	140	1448
Total	5080	1834	6914
SF/Duplex=109 du/yr	M/F =12 units/yr	Hotel =10 units/yr	

In the 1990 Land Use Plan, build-out was projected to be 7,728 dwelling units. Those projections called for 5,448 single-family and duplex units, 383 multi-family units, and 1,897 hotel units. Several significant changes have occurred since 1990: (1) In the SED-80 district, 390 acres were acquired by the Town and The Nature Conservancy, thus reducing the development potential in SED-80, (2): The Village at Nags Head had projected up to 1,200 single-family and duplex units, in all likelihood the final number of dwelling units will be less than 800; and (3) Hotel and motel development as well as multi-family development within The Village and outside The Village has not occurred as projected.

- **Conclusion**

These types of projections say little about the capacity of the Town, and its natural and man-made environments, to accommodate growth demands. For instance, to estimate that local water consumption will increase by 42 percent at

some point in the future does not address the question of whether this demand can be satisfied under the existing water supply and distribution system. More specific information concerning the “carrying capacity” of local environmental and man-made systems to accommodate growth demands is contained in the chapters which follow in this plan. These chapters also identify local goals and policies which assist in determining when and to what extent growth demands can be satisfied, and at what economic, social, and environmental costs.

- **Summary**

The Town currently has 5,080 dwelling units of which 62 percent are single-family and duplex units. Over the last twenty-one years, on average, 83 percent of new dwelling units that have been built have been single-family or duplex. However, over the last ten years, 97 percent of the dwelling units constructed have been single-family and duplex units. At build-out, which is projected to be in 14 to 18 years the Town will have approximately 6,914 dwelling units, an increase of 1,834 from what we have now.

For commercial growth, there are currently 178 acres in the various commercial districts to accommodate future growth. Based on previous development patterns, these 178 acres would be developed in twelve years.

Chapter 6.

Managing Growth and Development in Nags Head

In the previous chapters we described the population and development growth trends that the Town of Nags Head is currently experiencing and expects to experience in the future. Along with this growth are numerous impacts and implications, from the increasing demands placed upon public services and facilities to the negative affects on the quality of the natural environment. Yet, Nags Head is not powerless in the face of these impacts. Rather, through carefully guidance and management of future growth, the Town can minimize negative effects and maximize the benefits and opportunities growth presents.

As a preliminary step in developing the Land and Water Use Plan, the Town mailed surveys to all property owners in Nags Head asking their opinions of certain land use issues. The Town also mailed out surveys for the 1990 Land Use Plan update process. While each survey represents views from a different point in time, it is somewhat informative to compare some of the results from each survey. When asked how they felt about growth in the Town during the last five years, 27 percent (25 percent in 1990) felt growth was “just about right,” 40 percent (38 percent in 1990) felt growth was “a little too fast,” and 30 percent (35 percent in 1990) felt that growth was “much too fast.” (The full results of the 1996 survey are contained in a report entitled *Citizens’ Survey on Growth and Development*, William C. Overman Associates, P.C., December 13, 1996.)

- **Characteristics of Growth**

Efforts to manage future growth can focus on one or more of the characteristics of this growth. At least five dimensions of growth can be identified and can be modified through public policy to achieve certain local goals: type, quality, density, location and rate. Each of these dimensions is briefly described below. In reviewing each of the following five dimensions of growth the reader should keep in mind that North Carolina is not a home-rule state. Counties and municipalities can only develop and adopt ordinances and regulations in which authority to do so has been delegated to the counties and municipalities by the General Assembly.

1. *Type.* Type of growth or development usually refers to the use to which land and space is allocated. Typical growth types include commercial and

industrial, recreational, single-family residential, and multi-family. A growth management program, as part of a comprehensive plan, may control the type of new growth occurring in the community. A growth management plan may be designed to preserve the community's residential character, to minimize incompatible uses and to avoid the negative effects of certain land use activities, e.g., noise, traffic, pollution. For example, the Commercial Services District (C-3), was a district established only to support commercial services in Town and where residential housing is not permitted. On the other hand, in the R-1 District, (Pond Island and portions of the oceanfront including the historic district), single-family development is the primary use with very few other uses allowed. Both the C-3 and R-1 districts were established to meet different commercial and residential needs in the community.

Through tradition and design Nags Head has become a community dominated by single-family structures. The Town can exercise control over the mix of land uses developing in the community through the Zoning Ordinance and Zoning Map.

2. *Quality.* The quality of growth usually refers to the construction and design of the development occurring in the jurisdiction. A community may wish, for example, to pursue building code amendments to ensure that the quality of construction is such that structures will withstand certain physical forces, such as hurricane force winds. Quality may extend, as well, to the aesthetic characteristics of the Town, and the community may regulate features such as a historic district, which, if established, would preserve the visual and architectural integrity of the community. The amount of open space required around a building or along the oceanfront or sound front may be considered a question of quality.
3. *Density.* An important dimension of growth is the intensity or density with which it occurs over the entire community and on particular sites. A community may wish to control the density of development to protect natural resources such as groundwater quality and estuarine areas. Controlling the density of development has implications for the generation of traffic, the consumption of water and demand for other public services and facilities, and the scenic and aesthetic quality of the community. The density at which a town develops has a profound impact on the community's character. Nags Head is characterized as a low density community. Since 1985, the Town has increased lot area requirements in several districts. For example, in R-2 District, minimum lot area requirements were increased from 15,000 to 20,000 square feet and in SED 80, minimum lot sizes were increased from 40,000 to 80,000 square feet.
4. *Location.* Certain *uses* and densities are appropriate in certain locations, while others are not. Consequently, a key dimension of growth which

management programs are designed to influence is location. For instance, while a community may decide that some high intensity uses are acceptable for a particular location, placing them next door to residential neighborhoods may not be. To preserve the integrity of the beach and dune system in a locality or to reduce the amount of the Town at-risk in a hurricane, it may be necessary to locate development, and particularly higher density development, away from the oceanfront. While the Town is primarily residential, there is a scattering of commercial development which is being surrounded by residential development, thus conflicts may arise between these two types of land uses. An example of location would be the Commercial Outdoor Recreational Overlay District which was established in 1995. One purpose of this district was to protect the residentially zoned areas of the Town from the adverse impacts from certain commercial outdoor recreational activities. The adopted regulations restrict many of the Town's outdoor commercial uses to areas away from residential development.

5. *Rate.* Depending upon the economic and other pressures experienced by communities, unmanaged growth may progress at a slow or fast pace. When growth demands are strong, and the resulting pace of growth is quick, the problems created by this growth may exceed the community's short-term capacity to deal with it. Public services and capital facilities become strained, with cost-efficient expansion requiring additional time. Natural systems become taxed, with little opportunity for local officials to adequately assess these impacts and take appropriate mitigating actions. Consequently, a growth management program may attempt to better deal with these problems by moderating and controlling the permissible rate or pace of growth in the community. The Water Allocation Ordinance, adopted in 1985 and repealed in January 1990, is a good, local example of controlling the rate of development in Nags Head.

Types of Growth Management Techniques

A number of specific growth management programs and policies can be employed to modify the above mentioned characteristics of growth to achieve community goals. Six types or categories of growth management programs are briefly mentioned here: plans, development regulation, capital facilities, policy, land and property acquisition, taxation, fiscal and other incentives, and information dissemination. The reader will note that each of these types is represented in the policies and implementing proposals contained in the subsequent chapters of this plan

1. *Plans.* The Nags Head Land and Water Use Plan, at its most general level, falls into this category. Plans represent the preparation of guiding frameworks for making future decisions. Less comprehensive plans can

serve to guide and implement a larger plan. In subsequent chapters, for instance, the capital improvements program, and post-hurricane reconstruction plan, are discussed as approaches to addressing and implementing the goals set forth in this plan.

In addition to the Land and Water Use Plan, there exists in Nags Head a Storm Water Management Plan which was adopted by the Board of Commissioners in 1995. It identifies drainage basins, and corridors, and depicts problem areas. The Plan and the subsequently adopted ordinances are used in reviewing proposed development plans. As good as these plans are, they must be updated to address changing situations and regulations. In comprehensively planning for the future, many existing plans and new plans need to be drawn together to formulate a unified plan of development, i.e., a comprehensive plan.

2. *Development regulations.* The tools and techniques included in this category are those which seek to manage growth by directly regulating it. Included here are traditional regulating devices such as zoning and subdivision ordinances, as well as more innovative programs such as the use of performance standards and bonus and incentive zoning. The Village at Nags Head Development Plan is another local example of an innovative regulation. This plan is designed to facilitate single-family and cluster housing, shared common areas, and other techniques to enhance the quality of development. The Area of Environmental Concern (AEC) program under CAMA is an example of a shared state-local regulatory growth management program which is enforced through the issuance of major and minor CAMA permits.
3. *Capital facilities policy.* Many of the goals of managing growth can be accomplished through decisions concerning the expenditure of public funds. For instance, a locality may be able to redirect growth away from a particularly sensitive environmental zone, by locating critical public services such as sewer and water in other less sensitive locations. As a further example, a locality may decide not to construct a public road to an undeveloped part of town to prevent the future growth pressures that such an investment would create. Nags Head, in conjunction with the Town of Kill Devil Hills and Dare County, expended funds to increase the water treatment capacity of the regional water system by placing more wells for the reverse osmosis plant in the vicinity of Fresh Pond. The impact of this decision was to ensure that adequate supplies of water would be available to meet future growth needs.
4. *Land and property acquisition.* In many cases the most effective way in which a locality can advance its growth management objective is through the public acquisition of land and property. The community may wish to preserve a pristine natural area that are subject to intense development

through public acquisition. Acquisition is typically used to secure lands for recreational and other public uses. Acquisition may also be applied to structures and development properties, for instance, when a locality intervenes to purchase an architecturally significant building threatened by existing patterns of development. Nags Head has acquired land for public beach access facilities, open space along the Causeway, and maintains ownership of 318 acres in Nags Head Woods, most of which is a maritime forest or watershed preserve. In 1992, the Town, in conjunction with the Nature Conservancy, purchased an additional 386 acres in Nags Head Woods. Some of these acquisition projects noted above, have been funded in part from the Capital Improvements Program which began in the mid 1980's.

5. *Taxation, fiscal, and other incentives.* Growth can also be directed and managed through taxation and other fiscal incentives. This category includes mechanisms designed to influence private development in a more indirect fashion. For tax purposes, while not applicable in Nags Head, land used for agricultural, horticultural, or forest purposes, if it meets certain qualifications, may be taxed on the basis of its "use value" even though it may have a greater market or "true value." Should the Town establish a historic district and commission, the use of historic property for preservation purposes will be considered by the tax assessor in appraising the property for tax purposes. While not under control of the Town, the federal flood insurance program provides an example of financial incentive. For example, homeowners who voluntarily exceed the minimum FEMA elevation requirement for structures can get reduced insurance premiums. In addition, the Town's participation in the Community Rating Program saves the Town's citizens who have flood insurance in special flood hazard areas, \$186,000 a year in premiums.
 6. *Information dissemination.* Classical economic theory suggests that consumers will make more informed decisions about development and the use of land if they are given more complete information. Programs in this category, then, involve efforts to convey to consumers and the public certain crucial information. For instance, a community may attempt to discourage future development in high storm hazard areas by increasing public awareness of the hazard associated with those areas. As a further example, the Town has attempted to bring about more environmentally sensitive building practices and building site preparation by developing and distributing a brochure and other information to builders and citizens highlighting the sensitive nature of the outer Banks environment.
- **Modifying the Characteristics of Growth in Nags Head**

Communities are not powerless against the pressures of growth. Rather, as has been suggested, there are both a number of different dimensions to growth

which can be modified or managed, and numerous growth management programs available for doing this.

Chapter 7.

The Beach Plan

♦ Background

The vitality of the Town of Nags Head as a resort destination depends heavily on our ocean beaches. It is the Town's ocean and sound shorelines, along with our water resources, that bring people to the community and provide the basic recreational and aesthetic amenities fundamental to Nags Head's existence. As growth continues in the Town, the pressures placed on the use and development of the ocean shoreline will increase as the few remaining oceanfront lots are developed. The Town believes it must take an active role in managing and protecting the ocean shoreline resources.

Barrier islands such as the Outer Banks act as a natural barrier protecting the estuaries and mainland from the direct effects of wind and waves. Once a barrier island is formed—a process that may take thousands of years—it often begins a natural process of migration. As sea level rises, the action of wind and waves will push barrier islands towards the mainland. At times, the process of migration can happen quickly such as during hurricanes or other major storms-but more often this migration is a slow process measured in inches or a few feet per year. In the natural system the sand is transported by wind and waves (and in some cases by inlets) from the ocean side of the barrier island across the island and deposited along the estuarine shoreline, providing sand for construction of new marshes. As the oceanfront loses ground, additional land area is forming on the estuarine side of the island, thus the island migrates. When development, artificial dunes, and man-made structures block this natural movement of sand, erosion of both the estuarine and ocean shoreline often results.

On a barrier island such as ours, the evolutionary process of barrier island migration coupled with man's strong desire to reside in and develop the coast provides a challenge to communities such as Nags Head. The challenge is how best to develop our coast while at the same time recognizing that these natural forces may also destroy what man has built. This chapter will explore some of the numerous factors and forces which shape and mold the Town's oceanfront and beach. These forces range from the influence of natural forces such as waves, wind, storms, and hurricanes to the significance of the multitude of rules and regulations from federal, state, and local governments

which influence and determine the extent of man's encroachment into this unique fragile, yet resistant and dynamic environment.

- The Beach Plan

The oceanfront shoreline represents an irreplaceable resource that is essential for our economic health and continued prominence as a coastal resort community. Within the Town there are approximately 11.29 miles of oceanfront shoreline stretching from Eighth Street on the north to the southern municipal boundary adjacent to the Cape Hatteras National Seashore. The Beach Plan is a comprehensive attempt to address all concerns and factors that may influence and affect the utilization and protection of the Town's ocean beaches and the area immediately adjacent to the beach. For the Beach Plan, the land areas east of NC 12 and NC 1243 will be considered. These areas are closest to the ocean and are the areas most heavily utilized by tourists, visitors, and residents, and the primary area on which our future depends. Areas west of NC 12 and NC 1243 are important to the beach and while not discussed in detail here, they are discussed elsewhere in the Land and Water Use Plan.

The following from the Town's Mission Statement guides the development of this plan:

The Town of Nags Head is working to build a community with an economy based on family vacation tourism. The base of that economy is the rental of single-family homes. Important elements in developing and maintaining this economy are:

- *An oceanfront beach that is accessible and usable, not blocked by large structures.*
- *A natural environment typified by clean waters and the natural landscape of sand dunes and salt tolerant vegetation.*
- *Commercial services provided by locally owned and operated businesses that share in the building of our community.*
- *Recreational amenities and attractions, both commercial and non-commercial that are wholesome and appeal to broad spectrum of family members*

- Overview and Introduction

Nags Head, from its early beginnings in the 1800s, has consisted predominantly of single-family cottages and a few hotels. Family operated businesses and cottage courts made up the commercial sector of Nags Head. These factors contributed to a certain charm, and a slow and relaxing pace of

life. The Town has been and still is an annual vacation spot for countless families. For many visitors and residents, Nags Head is a “family beach.”

Nags Head has been slow to develop when compared to other resort and vacation areas along the east coast, e.g., Myrtle Beach, South Carolina; Ocean City, Maryland. This slow growth has partly been a result of the remoteness of the Town. However, like all of the Dare County beach communities, Nags Head, especially during the mid- to late-1980s, experienced tremendous growth and development pressures. As an indication, the permanent population increased 80 percent from 1980 to 1990. The most significant growth pressures in the Town are, and will continue to be, generated by seasonal resort tourist industry. The task the Town is now facing is how to balance the needs of residents, visitors, and the tourist industry and not destroy those natural and cultural features which have made Nags Head an attractive place to live and visit.

- **Physical Characteristics and Natural Resources**

- Description of Beach Habitats***

The surf zone and near-shore waters (waters up to thirty feet deep) provide a habitat for a variety of ocean fish and are important not only recreationally for swimming and surfing but also for commercial and recreational fishermen.

Typically in the surf zone, numerous migratory fish including spot, weakfish, red drum, striped bass, bluefish, kingfish, flounder and various trout species can be found. During the summer and fall it is not uncommon to see hundreds of surf fishermen on the beach. Also during the summer and fall many of the above mentioned fish species are sought after by commercial beach fisherman.

The ocean floor in the surf zone serves as habitat for invertebrates, including crustaceans, worms, and shellfish. Common species include mole crabs, coquina clams, barnacles, and horseshoe crabs. These species are not commercially important; however, they provide an important food source for fish and shore birds.

Just beyond the surf zone in the near shore waters, typical fish species include Spanish mackerel, king mackerel, cobia and black sea bass. While beyond the range of the shore bound fisherman, these fish are often sought after by commercial fishermen as well as the charter and recreational fishing fleet.

- The Beach***

As mentioned in the introduction, Nags Head has over 11 miles of oceanfront shoreline. The land area between the ocean and NC 12 or NC 1243 is composed of several distinct natural habitats. The land area from the mean

low water mark to the mean high tide line (wet sand beach) is sometimes called the “public beach” where the public has a constitutional right to use that portion of the beach. The area between the high tide line to the base of the dune is often referred to as the “dry sand beach.” While this area in many instances may be in private ownership with property boundary lines extending landward to the mean high water line, the courts have generally held that the public has the right to travel across this “dry sand beach” area.

Depending upon the time of year and the occurrence of recent storms and hurricanes, the beach (both wet and dry) ranges from 100 feet wide to several hundred feet wide. In areas where there has been extensive sandbagging, the sandy beach area can be non-existent during high tide.

During the spring and summer various species of sea turtles are found swimming in the area with some coming ashore to deposit their eggs in the sand near the toe of the frontal dunes. Turtle species known to be in the area include: loggerhead sea turtle, Kemp’s ridley sea turtle, green sea turtle, hawksbill sea turtle and the leatherneck sea turtle. Currently the turtle nesting period runs from May 1 to November 15. During this time period certain beach development or protection activities such as sand bagging and beach bulldozing are prohibited by the US Corps of Engineers and CAMA to avoid destroying the buried eggs.

Dunes

Generally at the western most extension of the beach is a frontal dune. The height of this frontal dune can range from several feet above the beach to over twenty feet high. Usually there is a crossover to assist travel to the beach. In some locations the town has established vehicular crossover points.

According to the North Carolina Division of Coastal Management there are two classes of dunes: “frontal” and “primary.” A frontal dune is defined as the first mound of sand located landward of the ocean beaches having sufficient vegetation, height, and configuration to offer protection from ocean storms. A primary dune is defined as the first mounds of sand located landward of the ocean beaches having an elevation equal to the mean flood elevation plus six feet. In many cases there will only be a frontal dune and not a primary dune.

Development along the ocean shoreline is regulated by rules adopted by the North Carolina Coastal Resources Commission. The location and setbacks for new development along the ocean shoreline are in part determined by the “average annual erosion rate.” The annual erosion rate is an estimate of the number of feet of dune lost per year. The erosion rate is determined by the Division of Coastal Management using analysis of aerial photographs dating back to the 1930’s. The erosion rates are adopted by the Coastal Resources Commission and updated periodically. For Nags Head there are a number of

erosion rates for various sections of the beach ranging from two feet per year at Eighth Street to ten feet per year at the southern Town limits in South Nags Head. These erosion rates are based on long term erosion patterns and it should be noted that, for example, if a property has an erosion rate of four feet per year, the property may not have four feet of erosion each and every year. In some years there may be no erosion while a single storm event could result in erosion several times the long term annual erosion rate.

Dune Habitat

Typical dune vegetation includes American beach grass, sea oats, and bitter panicum grass. The area west of the frontal dune generally slopes towards the road with elevations generally ten to sixteen feet above sea level. Typical plant species in this area include most of the grasses mentioned above as well as some salt tolerant shrubs such as yaupon holly, wax myrtle, and bayberry. This vegetation is important in stabilizing the dune from wind erosion.

Common birds include various species of gulls, sandpipers, sanderlings, plovers, pelicans and terns. Many of the above species are migratory. A host of other bird species utilizes the beach for feeding during their yearly migration.

As the previous section points out, the beach zone and the surrounding water and land habitats and environments are sensitive to the effects of man as well as nature and natural processes such as erosion and storms. In developing the Town it is important to understand these various forces.

- Legal Framework: Ownership

Private Property

Depending on how the property was subdivided, private property rights either terminate at the mean high water line or a line westward of the mean high water line. There are a few lots within the Town where the private property line stops short of the mean high water line. As erosion continues to move westward, those lots where the property line is the mean high water line, that property line also moves westward thus reducing the size of the lot.

Public Property and Public Trust

On the ocean beach there is a generally “wet sand” area and a “dry sand” area. While subject to legal debate the interface between the wet sand and dry sand is the mean high water line. The mean high water line (MHW) is expressed as an elevation above the 1929 baseline for mean sea level. While this 1929 surveyed MHW line represents an average of long term data, it does not fully reflect the influence of non-tidal factors such as sea level rise. The land area waterward of the MHW line, as well as the navigable waters to the east, is in trust for public use. “On many oceanfront properties, the easternmost private property line is the mean high water line, a line which

can change over time to reflect the shift in the mean high water.” There are a number of state statutes (and cases from other states) that indicate that the dry sand beach up to the vegetation line is also public area (David Owens, Beach Liability Report, 1988). Local governments commonly exercise day-to-day control over beaches within their jurisdiction. Local governments typically exercise police power over the public trust areas and provide services such as police, fire, rescue and garbage collection. Under North Carolina law, local governments, such as Nags Head, are authorized to regulate (with special legislation) certain water activities such as swimming, surfing and personal water craft.

- **Federal Authority**

There are several federal programs which regulate or have an impact on development and utilization of the oceanfront.

Coastal Zone Management Program

The Coastal Zone Management Act (CZMA) of 1972 is the primary federal statute for protecting the nation’s coastal areas from pollution and development pressures. Other federal statutes specifically designed to protect the coasts include the Coastal Barrier Resources Act, and the Estuarine Areas Act of 1968, the latter of which requires federal agencies to consider the value of estuaries in their planning. In addition, the Clean Water Act’s permitting and other requirements apply to discharges in coastal waters. EPA also monitors and assesses the impact of hazardous air pollutants on coastal areas. State statutes, land-use programs, and the state judicial application of the public trust doctrine may also offer particularly important protection for coastal areas.

The National Coastal Zone Management (CZM) Program is a voluntary partnership between the Federal government and US coastal states and territories authorized by Coastal Zone Management Act of 1972 to:

Preserve, protect, develop, and where possible, restore and enhance the resources of the Nation’s coastal zone for this and succeeding generations;

Encourage and assist the states to exercise effectively their responsibilities in the coastal zone to achieve wise use of land and water resources of the coastal zone, giving full consideration to ecological, cultural, historic, and esthetic values as well as the needs for compatible economic development;

Encourage the preparation of special area management plans to provide increased specificity in protecting significant natural resources, reasonable coastal-dependent economic growth, improved protection of

life and property in hazardous areas and improved predictability in governmental decision-making;

Encourage the participation, cooperation, and coordination of the public, Federal, state, local, interstate and regional agencies, and governments affecting the coastal zone.

The CZMA can assign the primary authority to the states to regulate land-use on and near the coasts, including tidelands. The CZMA offers federal funding to the states for developing and implementing coastal zone management programs that meet certain federal requirements. The CZMA also requires all federal agencies and programs to be consistent with approved state programs. North Carolina has been a participant in this program since 1976. In North Carolina, The Division of Coastal Management administers the program and makes available planning and management grants as well as beach access grants to coastal communities. Regulatory provisions adopted by the North Carolina Coastal Area Management Act (CAMA) are consistent with federal CZMA regulations and requirements.

National Flood Insurance Program

In addition to CAMA regulations, the Town is a participant in the National Flood Insurance Program. As a participating community, in exchange for administering minimal development standards for new construction in floodplains, properties in Nags Head are able to obtain flood insurance. In Nags Head there are four flood zones, two of which are on the oceanfront. Each flood zone will have its own development requirements for new construction as well as requirements for additions and improvements to existing structures.

VE-Zone/Special Flood Hazard Area. This zone delineates areas of the Town which will be subject to substantial wave action during a 100-year storm event (technically, areas of the coast which could be subjected to waves three feet high on top of the already high rising flood water). The V-Zone constitutes a stretch of oceanfront from the southern to the northern borders of the Town.

AE-Zone/100-year Flood/Special Flood Hazard Area. This zone delineates those areas in the community which have an annual probability of one percent of being flooded in any given year, i.e., areas which will be inundated by the 100-year flood.

X-Zone/Areas of Minimal Flooding. These are areas where flooding is unlikely and are outside the 500-year floodplain. There are no X-zones on the oceanfront.

CBRA Coastal Barrier Resources Act. The Coastal Barriers Resources Act of 1982 designated certain portions of the Gulf and East Coast as undeveloped

coastal barriers. A portion of Nags Head Woods which is owned by the Town and/or The Nature Conservancy is in a CBRA zone. There are no portions of the oceanfront which are in a CBRA zone.

US Fish and Wildlife Service

The US Fish and Wildlife Service is an Agency within the US Department of the Interior. One of the primary responsibilities of the Fish and Wildlife Service is to protect marine mammals as well as threatened, endangered and migratory birds and mammals. Typical animals which fall under their protection include migratory birds, whales, porpoises and sea turtles.

US Army Corps of Engineers

The US Army Corps of Engineers (COE) has authority for projects which affect navigation. In addition, the COE also administers a permit program for beach bulldozing and the placement of sandbags. The COE permits stipulate construction standards and the time of year bulldozing or sandbagging is allowed. Because many species of sea turtles qualify as a threatened or endangered there is considerable federal protection given to them. The COE generally does not allow any beach bulldozing or sandbagging between April 1 and November 15.

• State Regulatory Programs

Coastal Area Management Act

The Coastal Area Management Act (CAMA) program was established in 1976 as a response to the federal government's Coastal Zone Management Act (CZMA) as discussed above. Part of this regulatory program is the establishment of Areas of Environmental Concern (AECs) for ocean and estuarine areas. Within these AEC land areas, special development regulations and rules apply to development which occurs in one these areas. AECs are established to protect the natural resource from uncontrolled development. Along with the regulatory powers of CAMA, the CAMA program funds planning and management grants, land use planning grants as well as grants for public access to the ocean beaches and estuarine areas. This chapter, as well as Chapter 17, Recreation, discusses public access sites.

Ocean Hazard Areas of Environmental Concern (AEC's)

The ocean hazard AEC is the land area closest to the Atlantic Ocean as defined by CAMA. The ocean hazard AEC in Nags Head is within the CR, R-1, R-2 and the SPD-C Zoning Districts which are along the oceanfront. The CR Zoning District extends 5.28 miles along the shoreline, whereas the R-2 District extends 4.13 miles, the R-1 District, 0.81 miles, and the SPD-C District, 1.07 miles.

The Ocean Hazard AEC is the area along the oceanfront and is comprised of: (1) ocean erodible areas (beaches), which extend from the mean low water

line landward 60 times the long-term erosion rate, plus 25 feet; and (2) high hazard flood areas which represent land that is subject to flooding, wave action, and high velocity water currents. This area is identified as the V-zone on the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps and requires special construction methods for structures built in this V-zone. In addition to special construction standards, structures in the V-zone will have the highest insurance premiums due to the hazardous nature of this area.

The placement of new structures in this ocean hazard area requires that the structures be placed westward of the first line of vegetation. The distance of setback west from the first line of natural, stable vegetation for small structures (generally less than 5,000 square feet in area) is thirty times the annual erosion rate. For example, if the annual erosion rate for a particular area is four feet a year, the setback would be a minimum of $(30 \times 4 = 120)$ 120 feet west of the first line of natural vegetation. A home would have to be placed at least 120 feet west of the first line of vegetation. Annual erosion rates in Nags Head range from two feet near the northern Town limits to ten feet in South Nags Head.

The North Carolina Division of Marine Fisheries

The North Carolina Division of Marine Fisheries (DMF) is responsible for the stewardship of some of the state's marine and estuarine resources. The DMF's jurisdiction encompasses all coastal waters and extends to 3 miles offshore. Agency policies are established by the 9-member Marine Fisheries Commission and the Secretary of the Department of Environment and Natural Resources.

DMF's mission is to maintain, preserve, protect and develop all of North Carolina's marine and estuarine resources. To meet this mission, the DMF is organized into eight sections.

The Planning and Analysis Section conducts analyses required for operational and fishery management decisions. This unit also oversees the DMF's habitat alteration permit review program and the Public Trust/Submerged Lands Program.

The Statistics and Information Management Section is responsible for the collection and processing of all commercial and recreational fisheries catch statistics and the management of biological, license, law enforcement and operational data. Marine Patrol Section has officers that work in three law enforcement districts along the coast. It is their job to protect state fisheries' resources and to inspect seafood houses, fish dealers, and restaurants that buy or sell North Carolina seafood. This mission is accomplished with boats, fixed-wing aircraft, helicopters, and patrol vehicles.

Of importance to Nags Head is NC Marine Fisheries Rule 15A NCAC 3R.011 (a) which prohibits the taking of menhaden by purse seine in the Atlantic Ocean within 1.5 nautical miles of the beach in specified portions of Dare County and Nags Head from May 1 through September 30, and within 0.5 nautical mile of the beach in specified portions of Dare County from October 1 through December 31. In addition, several sections of the beach in Nags Head have been closed during a short time period in the fall to protect recreational fishing interests.

Local Authority

The Town has been granted by the State certain powers to regulate activities within our corporate and extraterritorial jurisdiction (ETJ) areas. In general there are three regulatory authorities given to the Town: (1) general police powers, (2) special legislation from the legislature to regulate certain activities, and (3) zoning.

Town Code Regulations

Under general police power authority, the Town can regulate numerous activities and uses along the oceanfront and throughout the Town. For example, by local regulation the Town prohibits surfing within 300 feet of fishing piers, regulates driving on the beach and riding horses on the beach. The Town can also prohibit swimming during dangerous beach and weather conditions when the ocean conditions are unsafe for swimming.

In an attempt to keep the beaches free of debris, the Town can declare structures which are storm damaged and in danger of collapsing a public nuisance. In addition, any structure which is located in whole or part in the public trust area can be declared a public nuisance and abatement procedures can be initiated by the Town.

Special Legislation

The Town requested special legislation from the State Legislature to regulate uses in which specific authorization has not been provided for by the General Statutes. In many instances this special legislation is later codified by the State into the General Statutes. An example is the authority for the Town to regulate personal watercraft in the Atlantic Ocean. That special legislation is now codified into the General Statutes.

- Zoning Regulations

Land Based Zoning

The land-based zoning legislation (General Statutes Article 19, Planning and Regulation of Development) allows cities and towns to establish zoning districts and zoning regulations to regulate land-based activity. The Town regulates location, parking, height of structures, size of yards and a host of

other conditions to allowed and permitted uses along the oceanfront and throughout the Town.

Extraterritorial Zoning (ETJ)

State Statute allows municipalities to extend planning jurisdiction up to one mile from their corporate limits. In 1987, the Town extended its zoning jurisdiction into portions of Roanoke Sound, an area south of the Causeway, and one mile into the Atlantic Ocean. In November 1997, the Town modified its Extraterritorial Jurisdiction (ETJ) to include areas west of the Town's southern corporate limits in South Nags Head.

At the same time ETJ was established, the Town established the Ocean and Sound Waters District Zoning District. The purpose of the district is to provide for the proper use of the ocean and sound waters to ensure the continued scenic, conservation and recreational value that these waters provide to the Town, its residents, visitors and the surrounding area.

Water Based Zoning Regulations

Several years ago the Town requested special legislation to regulate personal watercraft (PWCs) as well as other uses within our ETJ areas. Codification of this special legislation resulted in modification of GS 160A-176.2 which allows Towns to "...adopt ordinances to regulate and control swimming, personal watercraft operation, surfing and littering in the Atlantic Ocean and other waterways adjacent to that portion of the city within its boundaries or within its extraterritorial jurisdiction; provided, however, nothing contained herein shall be construed to permit any city to prohibit altogether swimming or surfing or to make these activities unlawful." The Town has adopted regulations pursuant to this authority.

- **Zoning Districts**

As mentioned earlier, the town has the authority to establish zoning regulations and districts. Along the oceanfront the Town has established four zoning districts. Each zoning district has its own purpose and intent and has developed with its individual character and, uniqueness.

Commercial Residential District (CR)

The CR District is an area in which the principal use of the land is for intensive recreational purposes and for those types of development which, by their nature, is best located in close proximity to the Town's ocean beaches. The district also provides for less intensive recreational uses as well as compatible supporting uses. It is within the CR District that the oceanfront hotels and motels will be found. The other districts along the oceanfront (R-1, R-2 and SPD-C) are primarily for residential use and not for the high intensity use such as hotels and motels.

The CR District extends along the oceanfront and is composed of four areas which stretch over approximately 5.25 miles. The first and largest area (2.73 miles) extends from Eighth Street south to the 3800 block (near Jockey's Ridge State Park) of South Virginia Dare Trail where the R-1 District begins. The next area (0.66 mile) extends from the southern terminus of the R-1 District to an area south of Diamond Street just north of the Quay Condominiums where the SPD-C District begins. The third area (0.26 mile) is between Sea Pointe subdivision (across from the Town Municipal Complex) and the Epstein regional beach access. The last area, and the one most intensively developed, extends from Forrest Street south into South Nags Head, and ends approximately 600 feet south of Huron Street for a total of 1.6 miles along the oceanfront.

Permitted uses in the CR District include single-family and duplexes, municipally owned public access facilities, and restaurants. Conditional uses include fishing piers, hotels, private beach access facilities, and multi-family dwellings. The CR District is comprised of 264 acres of which 242 acres or 91 percent is developed. Forty-three percent of the acreage has been developed residentially, 25 percent as multi-family, and 21 percent as hotels. As of January 1, 1997, there are 34 lots remaining to be developed. (Table 7.1.)

Land Class	No. of Lots*	Acreage	Total Tax Value	Percent of Total
Residential	238	135.76	60,600,340	43.47%
Cottage Court	18	9.86	3,591,640	2.58%
Multi-family	16	28.65	34,815,190	24.98%
Hotel	26	52.61	29,949,990	21.48%
Commercial	9	12.43	4,377,840	3.14%
Public-Government	1	2.42	533,750	0.38%
Total Developed	308	241.73	133,868,750	96.03%
Total Undeveloped	34	22.71	5,550,300	3.99%
TOTAL	342	264.44	139,419,050	100.00%

* The number of lots represents lots which are devoted to a particular use. For developed lots, a use may occupy more than one lot. Total undeveloped lots represent all lots which are undeveloped regardless of lot area.

Low Density Residential District (R-1)

The R-1 District is intended to encourage the development of low density residential neighborhoods. There are two R-1 residential districts in Nags Head and one is along the oceanfront (0.81 mile). It is located between the 3800 block of Virginia Dare Trail (Jockey's Ridge State Park) where the first CR District ends and the 4200 block of Virginia Dare Trail (Diamond Street). Within this area there are approximately 46 homes listed in the National Registry of Historic Places.

The permitted uses in this district are limited to single-family dwellings and municipally owned public access facilities. Conditional uses are fire stations, private parks and clubs, and public utility facilities.

Along the oceanfront there are 45 acres which are all developed and one lot which is undeveloped. (Table 7.2.)

Table 7.2. Land Use Composition in the Oceanfront R-1 District				
Land Class	No. of Lots*	Acreage	Total Tax Value	Percent of Total
Residential	51	45.13	79,038,880	98.85%
Total Developed	51	45.13	79,038,880	98.85
Total Undeveloped	1	0.77	130,030	1.15%
TOTAL	52	45.90	79,168,910	100.00%

* The number of lots represents lots which are devoted to a particular use. For developed lots, a use may occupy more than one lot. Total undeveloped lots represent all lots which are undeveloped regardless of lot area.

Special Planned Development-Community District (SPD-C)

The Town has one SPD-C District and that is The Village at Nags Head. The Village at Nags Head is centrally located between the Atlantic Ocean and Roanoke Sound, with Old Nags Head Cove subdivision to the north and Forrest Street to the south. There are approximately 372 acres in SPD-C. The SPD-C District along the oceanfront is split into two sections for a total of 1.07 miles. The northernmost section extends from the Quay Condominiums south to, and including, the Sea Pointe subdivision. The other section of SPD-C along the oceanfront extends from the Epstein beach access south to Forrest Street. The Town Hall complex, Hawks Nest subdivision and a portion of the oceanfront from the Town Hall beach access to Epstein Street regional beach access site are in the CR District and not located in the SPD-C zoning district.

The 1986 Village Master Plan established five single-family designations, three multi-family designations, two hotel districts, two commercial areas, a

beach and tennis club, a golf course, sound access areas, Sea Pointe duplex standards, and numerous areas designated as open space. While multi-family and hotel standards were developed, no hotels or multi-family buildings (other than the Quay which was built before 1986) have been built and there is no remaining land along the oceanfront to accommodate these more intensive uses. (Table 7.3.)

Land Class	No. of Lots*	Acreage	Total Tax Value	Percent of Total
Residential	104	51.17	35,926,210	72.39%
Multi-family	1	6.54	6,328,400	16.29%
Public-Government	1	1.29	387,910	0.78%
Private Recreation	1	4.64	1,888,890	3.81%
Private Access	1	0.64	243,480	0.49%
Total Developed	108	64.28	44,774,890	93.76%
Total undeveloped	24	11.59	3,095,180	6.24%
TOTAL	132	75.87	47,870,070	100.00%

* The number of lots represents lots which are devoted to a particular use. For developed lots, a use may occupy more than one lot. Total undeveloped lots represent all lots which are undeveloped regardless of lot area.

There are two private recreational facilities on the oceanfront which are part of the Village. The largest is the Beach and Tennis Club which offers access to the ocean along with an outside pool, small snack bar, game room and outside tennis courts. During the summer The Village at Nags Head Property Owners Association provides a shuttle bus to facilitate movement of visitors from their cottages to the beach. The other facility is a bathhouse and walkway adjacent to the Quay Condominiums. Both of these facilities are available only on a membership basis.

Medium Density Residential District (R-2)

Town wide the R-2 District is intended to encourage the development of moderate density residential neighborhoods with a mix of permanent and short term seasonal residents, and also to serve as a transition zone between the low density area and more intensely developed areas. There is one oceanfront R-2 area and that is south of Whalebone Junction and includes the oceanfront as well as the land area west of NC 1243. For this section, only the area east of NC 1243 will be considered. This area is 4.13 miles in length.

Permitted uses in R-2 include single-family and duplex houses, and municipally owned public access facilities. Conditional uses include religious

complexes, fire stations, fishing piers, private parks and playgrounds, public utilities, and private clubs.

Table 7.4. Land Use Composition in the Oceanfront R-2 District				
Land Class	No. of Lots*	Acreage	Total Tax Value	Percent of Total
Residential	577	235.75	92,066,050	85.65%
Cottage Court	14	24.28	8,041,360	7.48%
Multi-family	1	5.69	1,306,210	1.21%
Commercial	1	1.30	345,160	0.32%
Public-Government	2	1.27	190,710	0.18%
Total Developed	595	268.29	101,949,490	94.84%
Total Undeveloped	126	64.04	5,544,840	5.16%
TOTAL	721	332.33	107,494,330	100.00%

* The number of lots represents lots which are devoted to a particular use. For developed lots, a use may occupy more than one lot. Total undeveloped lots represent all lots which are undeveloped regardless of lot area and include combined lots in single ownership.

There are 332 acres in the R-2 District along the oceanfront in South Nags Head and of that total, 83 percent of the lots are developed. However, 69 of the 126 undeveloped lots may be unsuitable for development due to erosion; therefore, 91 percent of the oceanfront could be considered developed. Of the developed land, 97 percent of the land area is devoted to single-family and duplex residential uses. The land use composition of the lots east of NC 1243 is shown in Table 7.4.

In South Nags Head the land areas both east and west of NC 1243 are primarily developed as rental homes and vacation homes. While not included in the table above, the area west of NC 1243 contributes greatly to the utilization of the oceanfront by visitors. On the west side of NC 1243 there are 257 developed properties, 170 undeveloped lots, thus the area is approximately 60 percent developed in comparison to the oceanfront where approximately 91 percent of the lots available for development could be considered developed. Some of the primary development constraints for the lots west of NC 1243 are septic suitability and proximity to US Army Corps of Engineers jurisdictional wetlands. (Table 7.4.)

- **Housing and Accommodations**

To meet the needs of the numerous visitors and tourists several types of accommodations have been developed on the oceanfront (Table 7.5). For ease of comparison, the Town has been divided into five areas: one area from Eight Street south to Loggerhead beach access, The Village at Nags Head, the

CR District in the middle of the Village, the area south of Forrest Street extending to the southern terminus of the CR District, and the last area which begins where the CR District ends and extends south to the southern Town boundary.

Table 7.5. Number and Types of Oceanfront Accommodations				
	Residential lots	Hotel/motel units	Cottage court units	Multi-family units
Eight Street to Loggerhead	245	487	37	15
The Village at Nags Head	104	0	0	36
CR out-parcel in The Village at Nags Head	5	0	0	57
Forrest St south to end of CR between Holden and Huron	39	279	99	138
South of CR boundary to southern Town limits (R2)	577	0	156	32
Total	970	766	292	278

Hotels and Motels

There are 766 hotel and motel units in Nags Head along the oceanfront located in the CR zoning district. Many of the motels are one story high with a few three stories high. Notable exceptions would be the Comfort Inn built in 1974 which is seven stories and approximately 65 feet high, and Nags Head Inn, which is four stories and fifty feet in height.

The last hotel built on the oceanfront was Nags Head Inn which was constructed in the mid-1980s. For future development along the oceanfront there is little undeveloped land available to build new hotels and motels. In all likelihood, any new construction of hotels and motels on the oceanfront will involve redevelopment with the recombination of existing lots into large parcels which can accommodate these uses. Both uses are allowed by the Town's Zoning Ordinance.

Multi-family

There are 278 multi-family dwelling units on the Nags Head oceanfront. By Town definition, a multi-family building is a building which contains three or more independent dwelling units. Multi-family buildings also include townhouses. Most of the multi-family units are in a rental program and rented on a weekly basis. The last multi-family development was Heron Cove which was completed in 1990.

Cottage Courts

Cottage courts can be characterized as multiple single-family or duplex dwelling units located on a single lot. This was once a popular form of

accommodation for visitors in a time when there were few single-family cottages available for rent. There are currently 292 cottage court units remaining in Nags Head. In 1985 the zoning ordinance was amended to prohibit the construction of new cottage courts. This zoning change was due somewhat to density and ownership concerns where individual units were being sold and subdivided into non-conforming lots without town authorization. In an attempt to assist cottage court owners in maintaining their cottage courts the Town has adopted zoning regulations which will aid in their repair and replacement and thus hopefully preserving some of the earlier character of Nags Head.

Throughout the years numerous cottage courts, small motels, and commercial structures have been demolished and single-family residences constructed in their place.

Single-family Dwellings

The predominant form of accommodation, and the one the town encourages, is the single-family residence. In the 1996 land use survey, 90 percent of the respondents felt that single-family housing in Nags Head was important in preserving the “family beach” atmosphere. On a question regarding building heights, 94 percent of the respondents felt that low building heights were also important in preserving the family beach quality. As the mission statement points out, the Town is opposed to tall structures which block the oceanfront.

Large oceanfront single-family houses can have an impact on neighboring properties. Over the years the size of oceanfront residential homes has increased so that today many of the homes built have five to seven bedrooms and have been advertised to accommodate over twenty people. Today’s large rental oceanfront houses often accommodate several families with advertised occupancies into the twenties. With these many visitors, parking, solid waste disposal, and noise can become a problem especially during the summer.

- **Size**

Over the last twenty to thirty years the Town has seen a transition from the “beach box” or “salt box” type of house to the more elaborate multi-story houses of today. The beach box style of house, while adequate thirty years ago, does not meet the needs of many of today’s tourists and residents. Today’s house is larger, averaging approximately 2,500 square feet in area and often containing five or more bedrooms. In comparison, in 1986 the average house size was 1,400 square feet with 3.3 bedrooms. While today’s average house may be 2,500 square feet in area, it is not uncommon to see houses pushing 5,000 square feet in area, with a pool and numerous other amenities on the oceanfront.

- **Historic District and Historic Homes**

From its early beginnings in the 1800s, Nags Head has consisted predominantly of single-family cottages and a few motels. Family-operated businesses and cottage courts made up the commercial sector of Nags Head. These factors contributed to a certain charm, and a slow and relaxing pace of life.

Along the oceanfront is an area containing a sizable group of historic beach cottages. These cottages were built shortly after access from the mainland became available. This area, sometimes known as the Nags Head Beach Cottage Row District, begins near Jockey's Ridge State Park (3800 Virginia Dare Trail) and extends to the south approximately 0.9 mile to the 4200 block of Virginia Dare Trail. The area includes some 60 houses, most of which are on the oceanfront. A considerable number of these houses are on the National Register of Historic Places. Most of the homes are still in the ownership of the original families. The houses have an easily identifiable architectural style with wood siding, two stories on the main frame, and quarters extending like an "L" towards South Virginia Dare Trail (NC 12). A number of these homes are rented in the summer to visitors, while the remainder of these homes are not rented and are used by the families of the owners as they have been for many years.

A particularly important question for this historic oceanfront area is whether future development and growth, not only on the oceanfront, but on the commercially zoned land to the west, will jeopardize the existing historic and architectural significance of these structures in the Town.

- **Fishing Piers**

There are three fishing piers in Nags Head. From north to south, Nags Head Pier is in the 3300 block of Virginia Dare Trail, Jennette's Pier is located at Whalebone Junction, and the Outer Banks Pier is in the 8900 block of South Old Oregon Inlet Road in South Nags Head.

Nags Head Pier is approximately 700 feet in length and was constructed around 1956, destroyed in 1962, and rebuilt. Today Jennette's Pier is 540 feet in length. It was built in 1939, partially destroyed in 1941, and was rebuilt in 1947. The Outer Banks Fishing Pier is approximately 650 feet in length and was built in 1957, damaged in 1962, and rebuilt. All three piers have tackle shops and Jennette's Pier and Nags Head Pier have restaurants.

- **Private Access, Beach Club**

In addition to the town's public beach access sites, The Village at Nags Head has two private access facilities. One facility is located at 4929 South Virginia Dare Trail and consists of a small parking area and bathhouse. The larger facility, The Village at Nags Head Beach Club at 5805 South Virginia

Dare Trail, has approximately 80 parking spaces, several tennis courts, an outdoor pool, game room and an access to the beach.

- **Visual and Aesthetic Resources**

As mentioned previously, Nags Head has been considered a family beach, a vacation spot where families can come and enjoy themselves without worrying about traffic, congestion, and noise. People have come to Nags Head for years in order to get away from such problems of city life. A primary reason people are attracted to Nags Head is the aesthetic and visual quality of the environment, including its beaches and open space, and the relative low density of its development. Many of these amenities and visual qualities, however, are changing and will continue to change as the available land is developed. It is important that the Town address these changes in advance to preserve unique qualities of the ocean beach environment.

- **Open Space**

The results from the 1990 and 1996 land use surveys which were mailed to all property owners illustrate the importance of open space. Respondents' first and foremost desire, which they were willing to pay for was preservation or acquisition of open space—68 percent in 1990 and 66 percent in 1996. They want to maintain open spaces along the ocean, the sound and in forested and vegetated areas.

- **Recreational Opportunities**

Along the 11 miles of oceanfront the Town has 28 public access sites providing 566 parking spaces for beach goers. Included in this count are three regional beach access sites which include Bonnet Street Regional Access, Epstein Regional Access, and Hargrove Regional Access. Regional access sites are designed to accommodate more individuals and provide restroom and shower facilities. Most of the remaining access sites are neighborhood sites which generally provide parking and a crossover to the beach. Some will have pole-mounted showers. Two sites, Small Street and James Street in South Nags Head, do not provide parking. The beach access sites are shown on Map 5 and are listed in Table 17.2.

In an attempt to determine how many people are on the ocean beach, the Town's Ocean Rescue Service estimated the number of beach goers at one time during the day for the months of June, July, and August. During the month of June 1997, there were approximately 74,368 people on the beach (including Regional Accesses) during the count. In July there were 291,110 and August the count was 239,970. From Labor day through October 15, there were 28,453 people on the beach during the count north of Jennette's Pier, and 23,546 people south of the pier. Counts are also made at stationary lifeguard stations at the Town's regional bathhouses/accesses at Bonnett

Street, Epstein Street, and at Hargrove Street. The counts are shown in Table 7-6.

The regional access sites are heavily utilized during the summer months. Due to this heavy usage, the Town in 1994 constructed a third regional access at Hargrove Street in South Nags Head. At times during the peak summer months there is little available parking at the Bonnett Street and Epstein Street accesses. Hargrove Street access remains somewhat underutilized. The following represents counts of beach goers utilizing the regional access facilities at one specific time during the day and do not represent the total usage for the entire day.

Table 7.6. Usage activity at regional bathhouses					
	Jun-97	Jul-97	Aug-97	Total	Daily Avg
Bonnett Street	3,325	8,945	6,527	18,797	209
Epstein Street	3,252	6,780	6,725	16,757	186
Hargrove Street	1,894	4,255	3,270	9,419	105

In addition to the numerous public access sites, and in a further attempt to facilitate access to the beach, the Town over the last five years has constructed sidewalks along Eighth, Barnes, Bonnett, and Bladen streets and a sand/clay path that connects Old Nags Head Cove to the Enterprise Street access. Shorter sidewalks exist at Mall Drive, Seachase Drive, and Baymeadow Drive. Several years ago the Town constructed a multi-use pedestrian path (4.75 mile) parallel to NC 1243 from Whalebone Junction to the southern Town boundary. In addition, the Town in late 1997 completed a sidewalk along Danube Street stretching from Roanoke Sound to the Small Street beach access site.

Respondents from the 1996 Land Use Plan Survey were asked about the need for bikeways and sidewalks. Opinion was somewhat consistent on this issue, with 74 percent indicating a need for bikeways and sidewalks and 64 percent willing to pay higher taxes to finance such improvements. See chapter 10, Traffic and Transportation for additional discussion of bikeways and pedestrian facilities.

In a barrier island community such as Nags Head, recreation and open space are intimately tied to beach and shoreline access and use. Even though considerable amounts of wet-beach areas may exist for public use, such areas may not satisfy future recreational needs if additional space and sufficient public access points are not provided. As future growth and development occur the capacity and adequacy of the public beach and existing access points will likely be exceeded. In The 1996 Land Use Plan Survey, citizens were asked what they liked best about Nags Head. The most common answer

was the “ocean, beach, and sound.” From the same survey, citizens were asked about our current mix of ocean access opportunities, 62 percent felt that we did not need any more large ocean access sites, 55 percent felt we needed more small ocean access sites and 56 percent felt that the Town had the right mix of large and small accesses.

One area that lacks any public access to the beach is the “Historic District.” The closest public accesses to the north of this area is located at Conch Street (3600 block of Virginia Dare Trail) and to the south, Small Street (4500 block of Virginia Dare Trail). The Town does not own any public rights-of-way within this area.

- **Transportation**

The existing transportation system consists of two primary roads parallel with the Atlantic Ocean. These two roads have several names. NC 12, which is closest to the ocean is also known as Virginia Dare Trail and as the “Beach Road.” US 158 generally runs down the center of Town and is known as Croatan Highway and formerly as the “Bypass.” In addition to these two roads, which are state maintained, there are numerous Town roads which run in an east-west configuration connecting these two major roads. In South Nags Head, south of Whalebone junction, NC 1243 (South Old Oregon Inlet Road) is a state road and is the only major road within Nags Head serving this area.

- **Transportation Improvements**

Improvements to US 158, NC 12, and NC 1243 since 1985 include the widening of US 158 to four lanes, repaving and adding a paved area alongside the drive lanes on NC 12, widening of US 64-264 along the Causeway, and repaving NC 1243. Additional local improvements over the last ten years have included the replacement of the Washington Baum Bridge and the “Little Bridge,” and completion of a parallel Wright Memorial Bridge at Kitty Hawk and Southern Shores.

The NC Department of Transportation has completed a Thoroughfare Plan for the Outer Banks and is suggesting the following improvements which will help facilitate traffic movements within the Town, and specifically NC 12.

- Improve NC 12 with by an additional three feet of pavement on both sides.
- Where there is a currently a third turn lane on NC 12, the interconnecting road to US 158 should be widened to three lanes.
- Gull Street and Lakeside Street should be three lanes from NC 12 to US 158. A signal should be placed at Gull Street to address access to the Soundings Shopping Center.

*For a more detailed discussion of traffic and transportation, see chapter 10.

- Governmental

State Owned Land

Within the Town there are five ocean outfalls owned, operated and maintained by NCDOT. The northern outfalls (Carolinian, Curlew, Old Casino (Kitty Hawk Kites), and Conch Street) generally drain some of the land areas between NC 12 and US 158. Direct runoff from portions of US 158 is eventually channeled through several of these outfalls. The outfall in South Nags Head drains much of the ditch alongside NC 1243. Except for the South Nags Head outfall, the other outfalls primarily function during storm events.

- Economic Issues

Tourism and Visitation

Tourism is the major industry on the Outer Banks. According to a study made by the North Carolina Division of Travel and Tourism and the Outer Banks Chamber of Commerce (1990), over six million (6,628,881) people visited the Outer Banks in 1989. In 1996, gross retail sales for Dare County were \$690,412,821 and gross receipts from occupancy and prepared meals were \$136,382,454 and \$98,718,133. The direct contribution to the area's economy from travel and tourism for 1995 was \$349.8 million, resulting in 7,750 jobs with a payroll of 80 million dollars (Outer Banks Chamber of Commerce).

The Importance of the Tourist Industry—An Example

A single-family home located on the oceanfront which is in a rental program adds considerable money to the local economy and tax receipts for the county and town. For example, a 2,500-square-foot, five-bedroom, five-bathroom home valued at \$300,000, located on the oceanfront which rents for \$3,500 a week in season for 10 weeks, and \$2,000 a week during the shoulder season for an additional 10 weeks, would produce the following:

Annual County ad valorem tax:	\$ 1,410
Annual Town ad valorem tax:	\$ 1,074
Occupancy tax:	\$ 2,200 total divided as follows: \$ 550 to the Tourist Bureau \$ 550 to Dare County
(Occupancy tax, continued)	\$ 1,100 to the towns-of which Nags Head gets \$341 (31%)
Meal tax:	Assumption: (10 people spend \$25.00 day per person for six days). Tax: \$15.00 to the Tourist Bureau
General sales tax:	six (6) percent

In total the above house for the summer season would generate an excess of \$5,300 in taxes a year. While not every rental home is 2,500 square feet in size and would rent for \$3,500, some are larger and rent for more, while many are smaller and rent for less. Twenty weeks represents a “good season” taking into account the shoulder season.

While the above discussion centers on revenue from a single rental home, the overall contribution from the tourist industry and residents is summarized in Table 7.7 for occupancy and ad valorem taxes paid by residents and visitors to Nags Head.

Table 7.7 Occupancy and ad valorem taxes collected by the town			
Dollar Amount			
Year	Occupancy Tax	Ad Valorem Tax	Sales Tax *
1991-92	649,980	2,180,481	522,676
1992-93	641,859	2,128,135	591,675
1993-94	734,079	2,268,274	656,145
1994-95	804,605	2,454,125	761,527
1995-96	839,521	2,514,143	798,204

* Includes all local sales tax

Occupancy Tax

Occupancy tax is collected by Dare County from all establishments that rent accommodations. This tax is collected on rental room, lodging, or similar accommodation subject to sales tax. Distribution is prorated to the amount of ad valorem taxes levied by each town for the proceeding year. As Table 7.7 points out, occupancy tax revenues have increased every year with the exception of two dips in 1991-92 and 1992-93 and overall occupancy revenue has increased by 98 percent since 1986.

While there is not a specific category breakdown for Nags Head for the source of occupancy tax collected, Table 7.8 represents the percentage of occupancy tax collected from various sources countywide from August 3, 1996, to July 23, 1997.

Table 7.8 clearly demonstrates that the largest source of occupancy tax revenue is from the rental of homes with the next largest being motel/hotels.

Table 7.8 Countywide occupancy tax collection	
Source	Percentage
Agent rented cottage	65.5%
Motel/Hotel	28.7%
Homeowner rented cottage	4.4%
Campground	1%

Bed and Breakfast	0.4%
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Ad Valorem tax

Ad valorem tax is the tax paid on the value of land and structures on the land. For tax purposes Dare County determines the assessed tax value for each lot. The county and town then establish their own tax rates.

Sales Tax

In 1996, gross retail sales for Dare County was \$690,412,821. Of this amount the state receives four percent, the county receives an additional one percent local sales tax option (of which the town receives eight percent), and an additional one percent tax goes to the state of which the town's share is four percent.

Receipts from occupancy, sales, and ad valorem taxes are a significant source of revenue for the town with ad valorem tax accounting for the greatest amount of revenue. The Town of Nags Head has over 11 miles of oceanfront shoreline. Within these 11 miles there are 970 single-family and duplex structures, 766 hotel/motel rental units, 292 cottage court rental units, and 278 multifamily dwelling units. In total, there are at least 2,126 dwelling units on the oceanfront which represents 42 percent of the dwelling units within the Town. The total tax value for all property (including miscellaneous structures) east of NC 12 and NC 1243 is \$307,872,129. This represents approximately 16% of the land area in Nags Head and 45% of the tax value in Nags Head that may be at risk from storms and hurricanes. Should the town experience significant damage from a hurricane, a dramatic decrease in revenue would occur. The following section discusses the amount of property at risk under various hurricane and storm scenarios.

- The Beach at Risk

Nags Head Vulnerability and Magnitude of Risk

Within the town there is approximately \$677 million worth of developed property. While some of the property would be subject to damage by flooding and storm surge, all the property would be subjected to the forces of wind during a hurricane. The following is an analysis of the magnitude of risk of property in Nags Head.

Hurricanes and severe coastal storms represent serious threats to life and property on the North Carolina coast. Along the Atlantic coast, North Carolina is second only to Florida in the number of storm striking the mainland. Between 1890 and the present, North Carolina experienced 24 hurricanes, or an average of approximately one hurricane every four years (Neumann et al., 1978.). In addition to hurricanes, Nags Head is subject to tropical storms and northeasters, such as the devastating Ash Wednesday

storm of 1962. Hurricanes and coastal storms create severe conditions of high winds, flooding and wave action.

Vulnerability to hurricane and storm hazards can be assessed first by analyzing the nature and location of physical hazards, and then by estimating the extent to which people and property are exposed to these forces. These assessments are provided below in brief fashion. A more extensive analysis is provided in the Town's 1984 *Hurricane Hazard Mitigation and Post-Storm Reconstruction Plan* and in the update of that study-A *Plan to make Nags Head, North Carolina Less Vulnerable to the Impacts Of Natural Hazards*. November 1997 (draft).

Location of Storm Hazard Areas

There are several approaches to delineating areas or structures that are vulnerable to coastal storms. One approach uses proximity of the property and structures to the ocean; another uses topography or elevation of the land above mean sea level and another is the age of construction.

Age of Construction

Throughout the years building code standards for construction has changed to make homes more resistant to wind and flood damage. Before 1972 there were few building code standards for coastal construction. In 1972, 1985, and again in 1996 the building code changed to address enhanced standards for coastal construction. Of the structures that exist east of NC 12 and NC 1243, 51% were built before 1972 when building codes did not specifically address enhanced coastal construction methods and materials.

The dates used above reflect the approximate year built according to Dare County tax records and does not necessarily imply that structures built before the newer construction codes are unsafe. Some of the earlier builders frequently used some type of tie downs as well as stronger construction methods than the code required. As Chapter 16 points out, we have a number of historic structures which pre-date most building codes that are still standing today. Building codes are constantly being revised to better address storm and hurricane conditions.

Proximity to the Ocean

For the Land Use Plan update, David Brower, Professor with the University of North Carolina at Chapel Hill performed a vulnerability analysis for Nags Head. He developed a geographic information system (GIS) application tailored to Nags Head for vulnerability and hazard assessment. In 1984, Brower performed a similar hazard analysis (not with GIS) for the Town.

What follows is a summary from that report highlighting the most pertinent information with the Town's vulnerability to natural hazards. Note that this

analysis is in terms of tax values as determined by Dare County and not the market value of these properties.

- **Flood Zones and Topography**

In Nags Head there are four flood zones, two of which are on the oceanfront. Flood zones are based somewhat upon height above sea level and proximity to the flood waters. In general, many interior which are significantly above sea level may not be in a special flood hazard area. Each flood zone has own development requirements for new construction as well as requirements for additions and improvements to existing structures. In addition to the two flood zones on the oceanfront, a 300-foot zone was used for this Plan to determine vulnerability along the oceanfront.

VE-Zone/Special Flood Hazard Area

This zone is the closest to the water and delineates areas of the Town which will be subject to substantial wave action during a 100-year storm (technically, areas of the coast which could be subjected to surface waves three feet high on top of the already rising waters). The VE-Zone constitutes a stretch of oceanfront from the southern to the northern borders of the Town. The VE-zone is 628 acres in size. Within the VE-zone there are approximately 635 developed parcels on 534 acres. The total tax value for these developed parcels was \$236,887,019 as of January 1, 1997. Of the 635 structures, 293 were pre-FIRM (before adoption of the Flood Insurance Rate Maps) and built before the Town began to participate in the National Flood Insurance Program in 1978.

AE-Zone/100-year Flood/Special Flood Hazard Area

This zone delineates those areas in the community which have an annual probability of one percent of being flooded, i.e., areas which will be inundated by the 100-year flood. In Nags Head, these zones are located over much of the jurisdiction. Specifically, these areas include most of the land east of NC 12 and NC 1243 (although there are V-zones along the frontal dunes), much of the land between NC 12 and US 158, as well as portions of land west of US 158 along the estuarine shoreline, and Cedar and Pond islands. The AE flood zone is 2,158 acres in area of which 1,453 acres are developed. Development within the AE flood zones is composed of approximately 1,429 structures, with a tax value of \$254,964,860 as of January 1, 1997. Of these 1,429 structures, 489 structures had a tax value \$166,201,000 and were built prior to the Town's participation in the National Flood Insurance Program.

300-foot Zone

Hurricane experts have argued that experience shows that the most extensive damage from hurricanes occurs within 300 feet of the ocean. While this is more a "rule of thumb" than a scientifically established hazard zone, it

nonetheless represents a useful guide for measuring extent of property at risk and appropriate mitigation measures.

- ◆ **Incipient Inlets**

In any major storm or hurricane, the formation of new inlets is a possibility. While the prediction of inlet formation and their precise location is highly uncertain, particular physical features can be used to identify likely sites. In an analysis of potential inlets in Nags Head, three areas have been identified as possible sites for incipient inlets.

Whalebone Junction Incipient Inlet

Whalebone Junction area was identified as a potential incipient inlet based on several factors: maximum elevation, island width, canal dimensions, and rate of erosion. Width and elevation of a barrier island appear to be the most important factors. This potential Nags Head inlet identified by Lynch is a canal which enters the island near Whalebone Junction. Lynch calls this site “extremely hazardous,” based on a composite of several of the crucial primary and secondary factors. Drawing a straight line across the island from this canal and placing a 425-foot erodible area (estimated width of area subject to erosion) on each side of this line yields the Whalebone Junction incipient inlet hazard zone.

Old Nags Head Cove Incipient Inlet

A second potential inlet has been identified in the Old Nags Head Cove area. Here finger canals have been excavated from the soundside approximately 1,000 feet perpendicular to the shoreline. This means that stormwater from the sound would have a clear funnel traversing the island more than halfway to the ocean. This represents a serious inlet threat, and unfortunately is located in the center of a large subdivision. Extending the path of the longest canal to the Atlantic Ocean, and placing a 325-foot erodible area (estimated width of area subject to erosion) on each side of this line, yields an identifiable hazard zone. This is a crude delineation, as is the case with the other incipient inlets, and is meant only to provide decision-makers with a general idea of the geographical area of concern.

Soundside Road Incipient Inlet

A third potential inlet can be identified in the Soundside Road area just south of Jockey’s Ridge State Park. This area has been identified because of its relatively frequent flooding. Extending the path of this road, and placing a 100-foot erodible area (estimated width of area subject to erosion) on each side yields an identifiable, albeit crude, hazard zone. This same area was the site of extreme flooding and damage alongside Soundside Road (formerly Jigsaw Road) in 1962.

- **Additional Conclusions from the Vulnerability Study**

An analysis of all property east of NC 12 and 1243 indicated that there were 1,040 structures in this area with a value of \$290,527,689 as of January 1, 1997. Within this group, 214 structures were built before the Town began to participate in the National Flood Insurance Program in 1978, and may not meet today's flood insurance standards.

Analysis shows that 59 percent of all structures in Nags Head (an aggregate tax value of \$400,639,079) are vulnerable to a Category 1 hurricane, and 83 percent of all structures (an aggregate tax value of \$568,944,769) are likely to be impacted during a Category 3 hurricane.

Analysis also indicates that 42 percent of all developed property in Nags Head (total tax value \$290,527,689) lies within the 300-Foot Zone, while 4.5 percent (total tax value \$30,679,090) is vulnerable to incipient inlets. Property within the VE flood zone is valued at \$236,887,019, and property within the AE flood zone is valued at \$254,964,860.

The vulnerability of vacant areas (which make up 28 percent of the total acreage of Nags Head) is also significant. Of all vacant land in Nags Head (48%), or 488 acres, is vulnerable to Category 1 hurricanes, while 25 percent, or 912 acres would be impacted during a Category 3 hurricane. Ten percent of Nags Head's vacant land is within the 300-Foot Zone (100.75 acres), and three percent (or 29 acres) is subject to incipient inlets. Nine percent (94 acres) of all vacant land falls in the VE flood zone, and 69 percent (704 acres) within the AE flood zone.

Approximately 70 percent of the tax value of structures in the Town were built after the Town began to participate in the National Flood Insurance Program in 1978. Structures built before 1978, did not need to meet any base flood requirements and thus may be more susceptible to flood damage.

Within the three incipient inlets, approximately 117 structures are located, representing a tax value (as of January 1, 1997) of \$30,679,000. Of this number, 67 structures with a tax value of \$18,698,000 represent pre-FIRM buildings.

In 1988 the Town adopted a comprehensive Hurricane and Storm Mitigation and Reconstruction Plan. Prior to developing this Plan, Brower, in 1984, conducted an extensive estimation of the property-at-risk in each of the hazard zones. Several comparisons can be made between the two plans prepared thirteen years apart. These comparisons are shown in the Table 7.9 below.

Table 7.9 Comparison of property at risk from the 1984 and 1996 Vulnerability Study. (Dollar value not adjusted for inflation)		
	1984	1996
Value of structures east of NC 12/NC 1243	53 Million	307 Million

Percent of property east of NC 12/NC 1243	40 %	42 %
Value of structures in potential incipient inlets	1.76 Million	30.6 Million

Conclusion of vulnerability analysis. The Town of Nags Head has over 11 miles of oceanfront shoreline in which exists 970 single-family and duplex structures, 766 hotel/motel rental units, 292 cottage court rental units, and 278 multifamily dwelling units. The density on the oceanfront (dwelling units/acre) is approximately three units per acre as compared to the overall Town average of 0.85 units per acre (Chapter 15). In total, there are at least 2,126 dwelling units on the oceanfront which is 42 percent of the dwelling units within the Town. The total tax value for all property (including miscellaneous structures) east of NC 12 and NC 1243 is \$307,872,129. This represents approximately 16 percent of the land area in Nags Head and 40 percent of the tax value in Nags Head that may be at risk from storms and hurricanes.

- Emerging Issues

Development Constraints

Development on the oceanfront involves meeting numerous rules such as CAMA, FEMA and zoning regulations. Zoning regulations address such concerns as lot coverage, height, setbacks, and the types of uses allowed. CAMA regulations determine minimum setbacks from the first line of stable natural vegetation. FEMA regulations address the flooding potential for the structure and establish minimum construction standards and height standards dependent upon the flood zone in which the structure is sited. In keeping with the Town's family beach atmosphere, oceanfront single-family development is allowed in all districts.

1. *Land Availability.* Land availability will be a primary factor in further development of the oceanfront. As of January 1, 1997, there was one vacant lot in the R-1 District, 34 lots in the CR District, approximately 57 lots in the R2 District, and 24 lots in the SPD-C District. While the availability of vacant oceanfront property is diminishing, the Town is beginning to see, and will continue to see, an increase in redevelopment of existing sites. As mentioned previously, cottage courts and motels have been demolished and single-family residences constructed on their sites.
2. *Erosion.* Erosion has been and will continue to be the primary cause for the destruction and loss of oceanfront homes. The erosion rates for Nags Head range from two to ten feet per year. Since the CAMA program began in 1976, all structures on the oceanfront have had to meet the required thirty-year setback. With time, more and more of the homes and

structures which were built to the minimum thirty-year standards will be threatened by erosion as the coastline migrates west.

3. *CAMA*. All structures built on the oceanfront must meet the minimum *CAMA* standards. As lots become shallower due to erosion, those standards will be harder to meet.

Gas and Oil Exploration

In the last eight years new environmental and economic concerns have developed relating to off-shore and outer-continental shelf (OCS) gas and oil exploration. Often associated with off-shore gas and oil exploration are land-based support facilities such as electric generating plants, refineries, storage facilities, and transmission pipelines.

With any energy-siting facility, either off-shore or on-shore, there are always potential negative economic and environmental impacts. Off-shore impacts could result from blow-outs and spills. Potential on-shore environmental impacts include air pollution from generating or refining facilities, and groundwater and surface water pollution resulting from large oil spills from storage tanks and transmission lines.

The Town's Zoning Ordinance does not permit any of the above shore-based uses associated with gas and oil exploration within the Town or within our extra-territorial jurisdiction.

Water Quality

The quality of the ocean's water is excellent and there have been no reported water quality problems in Nags Head associated with the ocean waters. Stormwater runoff has not been a problem on the oceanfront due to the relative low density of development, lot coverage requirements of the Town, and high porosity of the sandy soils.

(Beginning in the summer of 1997, the Department of Environment and Natural Resources-Shellfish Sanitation Section began sampling at five oceanfront sites. They sample for fecal coliform, enterococcus, salinity and temperature. The sites are sampled weekly during the summer and less often during the rest of the year. If a certain area along the coast has a problem with water quality, health officials will recommend people not swim there by posting a sign in the area, listing it on a web site, and by notifying the local media and the Dare County Health Department.)

Within the Town there are five ocean outfalls (see map 3, Fragile Areas) operated and maintained by NCDOT. The northern outfalls: (Carolinian, Curlew, old Casino [Kitty Hawk Kites], and Conch Street) generally drain some of the land areas between NC 12 and US 158. Direct runoff from portions of US 158 is eventually channeled through several of these outfalls. The outfall in South Nags Head drains much of the ditch alongside NC 1243.

With the exception of the South Nags Head outfall, the other outfalls function primarily during storm events.

While not causing any water quality problems in Nags Head, an ocean outfall in the Town of Kill Devil Hills was found to be a health concern due to a malfunctioning septic system in Kill Devil Hills. A portion of the Kill Devil Hills ocean beach was closed for a short period of time until the failing septic system could be repaired. While outfalls by themselves do not cause a problem it is essential that they are maintained and function properly. The public perception of any beach closure can be devastating.

Ocean Overwash

As with any low-lying coastal community, surface groundwater, or surfacing groundwater, and ocean overwash are areas of concern. The Halloween storm of 1991, a northeaster following a late season hurricane, caused an erosive wave pattern which eroded significant dune areas and caused serious ocean overwash. Subsequent storms in the winter of 1992/1993, and the summer of 1994 resulted in some overwash due to the dunes weakened in the Halloween storm of 1991. Some of the areas affected by the overwash drained relatively quickly, while standing water affected some areas for a week or so. The flooding is currently sporadic. The ocean overwash flooding cannot be prevented but may be controlled by a community-wide beach nourishment program.

Public Health

Safety and welfare risks may occur in the form of flooded septic systems and flooded streets. When septic drainfield and tanks are under water there is always the concern that untreated sewage will enter into the drainage system as mentioned above. Fortunately, the Town's existing stormwater drainage system, except for the most severe weather event, can adequately handle drainage.

One area of concern rests with a few oceanfront cottages where the septic systems have been placed on the east side of the cottage. As a result of erosion, these septic systems are in danger of being exposed and malfunctioning. All repairs and replacement of septic systems must meet state regulations and permitting requirements by the Dare County Department of Environmental Health.

Ocean Sewage Outfalls

There are no ocean sewage outfalls in Dare County. In some coastal communities with centralized sewer treatment facilities, an ocean outfall is a method to dispose of the treated effluent. Some coastal areas in the United States have adopted ocean outfalls as an effective means of disposing of large volumes of treated domestic wastes. Depending on their locations and local

oceanographic conditions, ocean outfalls have met with varying degrees of success

Recreational Fishing

The ocean beaches in Nags Head and the Outer Banks are well known for the fishing opportunities they afford. Many visitors as well as residents plan their vacations around the recreational fishing season. The Town is host to one of the oldest fishing clubs on the east coast—the Nags Head Surf Fishing Club. Every fall the Club sponsors a fishing tournament that attracts over eighty teams and thousands of visitors.

In addition to the surf fishing opportunities, there are three commercial fishing piers in Nags Head.

Commercial Fishing

While commercial fishing within Nags Head and our Extraterritorial Jurisdiction (ETJ) waters does not represent a significant industry, efforts should be made to ensure that opportunities remain for the activity to continue. For the last two hundred years, commercial fishing has been part of the culture of the area.

Over the past few years the Town has seen increasing friction develop between commercial fishermen (both onshore and offshore) and recreational fishermen and residents who object to the presence of commercial fishermen either working the beach, or offshore in boats. The North Carolina Marine Fisheries Commission has established rules which regulate certain types of commercial fishing activities in Nags Head during specific time periods and locations.

Other User Conflicts

Another evolving concern has been the use of personal watercraft in the ocean. The use of these privately owned PWCs in close proximity to the shoreline can create hazardous conditions for swimmers and surfers. While the Town does have rules on noise and how close the PWCs can be to the shoreline and piers, enforcement can be problematic.

As the population increases and types and numbers of different activities that occur on the shore and near shore increase, user conflicts will occur. It is possible that the Town will begin to see more user conflicts develop between other groups, such as swimmers, surf fishermen, surfers, etc.

Beach Driving

Driving on the ocean beaches has been allowed for many years. The Town currently issues permits and restricts driving on the beach to certain times of the year. Over the last few years the Town has had to close off sections of the beach due to poor driving conditions or lack of a suitable beach on which to

drive. In some cases houses on the beach may impede both vehicular and pedestrian traffic traveling the beach. As erosion continues and the area of sand suitable for driving diminishes, the Town may need to reevaluate the current policies on driving on the beach.

Condition of the Beach

In the 1996 land use survey, 311 (23 percent) of the respondents noted that the ocean, beach, and sound were the things they liked best about Nags Head. While not elaborated on in the land use survey, the Town has received complaints in the past regarding dogs on the beach and the condition of the beach (trash/debris), especially after a storm. Large fish spill from the commercial fishing operation have occurred which can result in tons of dead fish littering the beach.

Beach Cleanup

Every fall North Carolina Sea Grant and a host of other organizations sponsor a Beach Cleanup day. Countless volunteers and citizens scour the beach for debris, bag it, and remove it from the beach. In addition to this national program, the Town, in cooperation with the Outer Banks Surfrider Association, has established an Adopt-the-Beach program. This program is very similar the North Carolina Department of Transportation's Adopt-a-Highway cleanup program where citizens and organizations volunteer to be responsible for cleaning up a section of the beach.

Franchise and Commercialization

Every year the Town receives numerous requests from individuals and businesses to sell products or services on the oceanfront beaches. The Town has regarded its beaches as an area which should be free of solicitations. Specific regulations are contained in the Town Code (Section 10-94. Regulations for peddlers and itinerant merchants) that state, "It shall be unlawful for any person to expose for sale, offer to sell, barter or exchange, or sell any food, wares or articles of merchandise within any public street and highway rights-of-way, or on the ocean beaches of the town."

Dogs

The Town receives much comment on allowing dogs on the beach. Dogs are allowed on the beach at any time provided the dog is restrained by a leash, cord, or chain not exceeding ten feet in length. The dog must be under the control of a person who is physically able to control the animal. In addition, all feces must be immediately removed. Burying feces in the sand or depositing in the ocean is prohibited.

Sand Bagging and Sand Pushing

Sand bagging and sand pushing are two activities which are allowed by the Coastal Area Management Act to protect property along the oceanfront. Both

activities require a CAMA permit. Sand bagging is considered temporary measure to protect structure from erosion and can only be used when the structure is “in imminent danger.” Beach bulldozing is an activity in which sand is pushed by a bulldozer from the lower parts of the beach landward to replace sand that has been lost from the protective frontal dune. Both activities are prohibited during the turtle nesting season (April 1 through November 15).

Public Streets and Private Streets

Previous town development regulations have allowed for the construction of private and public roads close to, and parallel to the Atlantic Ocean. This type of development allowed for the construction of roads which were parallel to the ocean and thus subject to storm damage and erosion. It also did not allow for the relocation of structures on the same lot and sometimes off the lot when they became threatened by erosion. In the last fifteen years several roads or portions of roads have been lost or threatened by erosion (Altoona Street, Surfside Drive). In addition, the eastern terminus of roads built perpendicular to the ocean road can experience loss of road pavement as erosion occurs (Loon Court).

In 1988, the town amended the subdivision ordinance to address the vulnerability of roads constructed close to and parallel with the ocean. That change only allows the construction of roads that are perpendicular to the ocean. The town also amended the subdivision ordinance to permit only “ocean-to-road” lots for any new subdivision of land between NC 12 or NC 1243 and the Atlantic Ocean. This change allows the opportunity for homes built on these lots to relocate west as erosion continues. The town no longer allows private roads.

In 1988 the town adopted two policies which directly address damage or losses to both public and private roads. For public roads, the policy states that prior to the expenditure of public funds for the repair or construction of Town streets which are destroyed or damaged as a result of a severe storm event, the Town shall conduct adequate studies and explore alternative solutions, including but not limited to abandonment procedures, special assessments, and condemnations.

For private streets, “It shall be a policy of the Town not to expend public funds for the repair or reconstruction of any private road or vehicular easement which is damaged or destroyed as a result of severe storm event, except in conjunction with the repair and maintenance of the Town’s water system.”

Personal Watercraft

Personal watercraft (PWCs) are allowed in the Atlantic Ocean. The operation of PWCs is strictly regulated by Section 5-5, Personal Watercraft in the Town

Code. Operators of PWCs must go out 600 feet from the shoreline at a minimum speed before they can power up to operation speed. Operators of PWCs must observe basic safety precautions and setback standards (from shorelines, other boaters, and piers as outlined in the Town Code.) The commercial rental of PWCs for ocean use is not an allowed use in any of the oceanfront zoning districts. Many of the concerns associated with the commercial rental of PWCs on the Sound are not seen in the ocean. However, the Town does receive complaints from time to time regarding the operation of PWCs too close to the beach and swimmers or operating too close to piers.

Ocean Outfalls

Within the Town there are five ocean outfalls operated and maintained by NCDOT. Maintenance of the outfalls is NC DOT responsibility and generally consists of routine cleaning. Due to the complex nature of outfalls and permitting requirements there is a strong possibility that there will be no new outfalls constructed in the future. One of the most critical component of a functioning outfall is routine maintenance.

Food for Thought

The challenge for the Town will be ensure that the remaining portions of the Town are developed or redeveloped in such a way as not to diminish the natural appeal Nags Head has for visitors and residents. In the 1996 land use survey, two questions were asked at the end of the survey. What do you like best about Nags Head, and what do you like least about Nags Head? The top three responses in each category: Best (1) Ocean, beach, sound. (2) Quiet, family atmosphere, and (3) Quality of life. The three least liked were: (1) Traffic, (2) Too commercialized, and (3) Too much growth.

Goal. The goal of the Town of Nags Head is to maintain a viable beach strand and to provide substantial opportunity for public access to that beach.

1. Barrier island migration
 - The Town recognizes that barrier island migration is a process where the barrier island migrates over time toward the mainland. The Town shall be cognizant of this process in making land use decisions that affects development on the oceanfront and estuarine shoreline.
2. Public trust
 - It is the position of the Town is that both the wet sand beach and the dry sand beach east of the first line of vegetation represents public land available for public access and the Town will actively oppose any action to restrict public access to and across the ocean beach.
3. Coastal Zone Management Act (CZMA) program and the Coastal Area Management Act (CAMA) program

- The CZMA program and the state of North Carolina's CAMA program are designed to protect the coastline and coastal resources. The Town of Nags Head supports this principal in the CZMA and CAMA programs.
4. National Flood Insurance Program (NFIP)
- The National Flood Insurance Program (NFIP) is designed to make flood insurance available to communities who voluntarily join the program. The Town of Nags Head shall enforce all applicable flood provisions in the Town's Flood Prevention Ordinance.
 - The Town shall continue to request from FEMA amendments to the Flood Insurance Rate Map (FIRM's) and other regulations which will more accurately reflect the flood risk in Nags Head.
 - The Town shall track all new flood provisions and shall consider amendments to the Town's Flood Damage Prevention Ordinance when those changes benefit the Town's flood insurance policy holders and the community at large.
 - The Town shall request revisions to NFIP regulations requiring that when properties are declared inhabitable and can not subsequently be made habitable that they be declared a total loss for insurance purposes.
5. Sea turtles
- The Town of Nags Head supports the protection of nesting sea turtles.
6. Beach nourishment
- The Town supports the continuing sand replacement study currently being conducted by the US Army Corps of Engineers for the Dare Beaches. Beach nourishment in many circumstances is a feasible and practical mitigation tool. The Town supports beach nourishment projects for the Town beaches subject to commensurate funding appropriations from federal, state and local sources.
 - The Town recognizes beach nourishment as our preferred alternative for addressing ocean erosion impacts. However. The Town also supports a variety of methods to abate the impacts to ocean erosion. These include but are not limited to beach nourishment, acquisition of threatened structures, relocation of threatened structures and the establishment of innovative technology or designs which may be considered experimental, which can be evaluated by the CRC to determine consistency with 15A NCAC 7M .0200 and the other general and specific use standards with the CAMA rules.

- The Town will support and encourage the establishment of a statewide beach management strategy and policy along with a dedicated funding program designed specifically for beach restoration and nourishment projects.
- The Town recognizes that sand management is essential for keeping beach sand within the system and that once sand has migrated to Oregon Inlet, that sand should be returned to the beaches north of the Inlet

7. Division of Marine Fisheries - closures

- The Division of Marine Fisheries either by proclamation or rules can restrict by time and location commercial and recreational fishing activities. However the Town also recognizes that conflicts can develop from time to time among various users of the ocean beaches and sounds. The Town shall take measures to assure that the beaches and sounds are accessible and useable and that user conflicts when they do occur are resolved quickly.
- The Town recognizes that commercial fishing by local fishermen from our ocean beaches and near shore waters and sounds represents a traditional occupation and part of the history of the Outer Banks. The Town supports the current location, gear, and menhaden fishing restrictions and shall lobby for changes in fishing regulations, rules and proclamations as conditions warrant.

8. Beaches, litter, debris and routine beach cleanup

- Clean beaches are essential for our residents and visitors. The Town of Nags Head will actively enforce our existing nuisance ordinances and will seek assistance from the state and federal government in the cleanup of the ocean beaches following major storms and hurricanes.
- The Town shall actively and routinely monitor and clean the ocean beaches of litter as conditions warrant.
- The Town will seek funds from the Dare County Tourist Bureau to assist in cleanup of the beach following unforeseen events. Such cleanup shall include, but not be limited to: beach debris and litter, whale stranding and fish spills etc.

9. Personal watercraft (PWC)

- The town will not permit or allow the land based commercial rental of personal watercraft for use in the Atlantic Ocean.
- The Town will strictly enforce the Town's ordinances as they relate to the safe operation of PWC's. The Town shall monitor PWC

activity and shall consider amending the use regulations as conditions warrant

10. Beach user conflicts

- When user conflicts arise over use of the ocean beaches and waters, the Town shall address the concerns of the affected users and work toward resolving the conflicts consistent with the goals of this Land and Water Use Plan.

11. Zoning district regulations

- The oceanfront zoning districts (R-1, R-2, CR, and SPD-C) support the intent for their respective districts. Prior to any zoning amendments the Town shall consider all zoning and landuse requests in context with the Town's Mission Statement and Vision Statement as well as relevant policies and goals in this Plan.

12. Hotels/motels

- The Town's current development requirements allow for hotels and motels to be built on the oceanfront. The Town shall not approve any amendment which would allow for a greater density of units, greater height of buildings or allowing these structures in oceanfront districts where they are not allowed now (R-1, R-2, and SPD-C).

13. Cottage courts and mobile homes

- The Town's regulations for cottage courts and mobile homes are adequate as they are now stated.

14. Single-family, size, intensity

- The primary land use desired by the Town shall be single-family homes.
- The Town shall consider measures to reduce the impacts caused by high occupancy vacation rentals and seasonal rentals, and particularly, the rental of large single-family homes on neighboring property and municipal services.

15. Historic District

- The Historic "district" is an irreplaceable resource for Nags Head and the Town shall carefully review any land use request or amendment for compatibility with the "district" and the "Nags Head Image"
- The Town will consider establishing an Historic District to preserve the historic beachfront cottages only when a majority of the affected property owners support it.

16. Ocean access opportunities

- The Town shall plan and provide an adequate mix of ocean access facilities including regional bathhouses, neighborhood accesses and pedestrian only accesses to the ocean to accommodate residents and visitors.
- As the numbers of beach goers increases the Town will seek additional access points not only to allow more users to get to the beach but also to serve as alternate locations for the more crowded sections of the ocean beach.

17. Private beach access

- The Town requires and will continue to mandate that any non-oceanfront hotel or motel shall provide private oceanfront beach access facilities for their guests.

18. Economic issues: tourism and visitation

- The Town shall support on a limited basis activities including parades, fishing tournaments and fireworks where the principal benefits will be to residents, visitors and businesses within the Town.

19. Development constraints—erosion

- One of the primary development considerations and uncertainties for oceanfront development is erosion. The abatement of the impacts to ocean erosion includes but not is limited to beach nourishment, acquisition of threatened structures, relocation of threatened structures, and the establishment of innovative technology or designs which may be considered experimental, which can be evaluated by the CRC to determine consistency with 15A NCAC 7M .0200 and the other general and specific use standards with the CAMA rules.
- The Town is opposed to and will not permit hard structures such as jetties, sea walls and bulkheads on the oceanfront regardless of federal or state policies.

20. Development constraints-land availability

- As the amount of available vacant oceanfront land diminishes the Town can expect redevelopment of existing sites. It is the Town's position that the existing oceanfront development regulations adequately address concerns such as building height and density, and that currently allowed and permitted uses adequately represent the desired uses for the oceanfront.

21. Mineral mining, gas and oil offshore exploration and production

- The Town is opposed to and will vigorously oppose any offshore commercial mining activity including gas and oil exploration or production in the Atlantic Basin. The Town will not permit or allow any land based uses associated with these activities.
- The Town supports a Presidential or congressional ban/moratorium on offshore oil exploration or drilling and is opposed to any future lease agreements to explore these resources.
- The Town supports the offshore mining or dredging of sand for public beach nourishment and renourishment projects.

22. Water quality

- The Town realizes that water quality testing is essential in determining if any problems or concerns exist in waters surrounding and within the Town. The Town shall consider either establishing a program of water quality testing or request that additional sites be tested to ensure that a larger section of Town is routinely sampled.
- The Town recognizes that when ocean beaches and estuarine areas and waters are closed for health reasons, proper public notification of the closures is essential for public safety. The Town will work with the respective regulatory agencies to develop a protocol and to ensure that public notification is released in a timely manner after careful monitoring has indicated that the agreed upon standards have been exceeded

23. Public health

- The Town shall monitor and periodically review the adequacy of existing standards for water consumption and wastewater production and shall modify existing regulations and seek changes to existing laws to ensure these septic systems are sized correctly and do not represent a threat to public health.
- Proper placement and maintenance of septic systems located in close proximity or drains into the sound are essential for maintaining high water quality standards. When septic systems fail, effluent can enter the ocean and lead to health concerns and closures of ocean waters. The Town supports vigorous enforcement and proper siting of septic systems which are in close proximity to estuarine waters. If needed, the Town shall support stronger regulations for on site-disposal systems.
- The town will study the impact of septic tanks on the ocean system and may work to improve the performance of on-site waste systems.

24. Commercialization and franchising of the beach

- The Town shall not permit nor allow any commercialization of the ocean beaches or waters nor allow any commercial activities to occur on the public beach.

25. Beach driving

- The Town recognizes that beach driving is a privilege and shall carefully monitor beach conditions and shall modify the beach driving regulations as needed.

Chapter 8.

Estuarine Waters and Shoreline Plan

- **The Albemarle-Pamlico Estuary**

To the east, the Town borders the Atlantic Ocean and to the west the Roanoke Sound. The Roanoke Sound is part of a larger body of water, the Albemarle-Pamlico estuary which contains some 30,000 square miles of watershed. The Albemarle-Pamlico is the second largest estuarine system in the United States and is composed of five major river basins and seven sounds, one of which is Roanoke Sound. Roanoke Sound is part of the Pasquotank River Basin which encompasses 3,697 square miles of low-lying land and vast open waters and includes all or portions of Camden, Currituck, Dare, Gates, Hyde, Pasquotank, Perquimans, Tyrrell, and Washington counties. A small portion of the basin extends up into Virginia.

An estuary is a body of water where the ocean's salty water meets freshwater from rivers and watersheds. The Albemarle-Pamlico region includes rivers, creeks and streams which flow into the sounds and marshes, as well as the fields, forests, cities, and towns that surround them. An estuary provides a home for oysters, crabs, bay scallops, and clams as well as a spawning ground for many varieties of fish. The estuary is a valuable asset in providing economic opportunities to farmers, fishermen, loggers who harvest the forests and miners who unearth minerals. The areas natural beauty attracts tourism and resort development. All are dependent on the estuarine system for their livelihood, and all play an important role in its continued health.

To the casual observer the Albemarle-Pamlico estuarine system appears to be in good shape. However, as the Albemarle-Pamlico Estuarine Study (APES) pointed out, there are signs of stress within the estuary: some streams are unfit for fish propagation and recreation, over 20,000 acres of prime shellfish habitat are closed because of pollution, in some areas unsafe levels of mercury and dioxin have been found in fish tissues, and disease epidemics in finfish, blue crabs, and oysters have been reported in some areas.

- **Nags Head Shoreline**

The estuarine shoreline and adjacent waters represent a valuable resource for the Town. While the estuarine areas share many of the same concerns and constraints as the oceanfront, the area is different in many respects. Within the Town municipal limits there are approximately 11 miles of estuarine shoreline.

Within our extraterritorial jurisdiction there are another 7.5 miles of shoreline on Bodie Island and approximately 7.5 miles of estuarine shoreline along the various islands in the sound.

In the 1996 Citizens Questionnaire on Growth and Development, there were several questions asked regarding the Town's estuarine areas and uses. In one question, respondents were asked to rank the following in terms of importance: preservation or acquisition of open space along the ocean beaches, preservation of open space along the soundside shore and dunes; preservation or acquisition of forested and vegetative areas; preservation or acquisition of open space elsewhere in Nags Head; preservation or acquisition of wetlands; and, preservation or acquisition of Nags Head Woods. The rankings, with one being the highest, by all respondents were;

1. Open space ocean
2. Open space soundside
3. Forested/vegetated area
4. Wetlands
5. Nags Head Woods
6. Elsewhere in Nags Head

Regarding soundside access and recreational opportunities, respondents were asked to rank six possibilities: The rankings, with one being the highest, by all respondents were:

1. Swimming and wading areas
2. Nature parks and trails
3. Fishing/crabbing opportunities
4. Non-motorized boat access
5. Motorized boat access
6. Public windsurfing areas

When asked about commercial outdoor water-based motorized recreation, 94 percent of the respondents felt we had enough jet skis facilities or opportunities, 90 percent felt we had enough power boat facilities or opportunities and 87 percent felt we had enough parasail opportunities or facilities. For non-motorized recreation, 57 percent of the respondents felt we had enough canoes and kayak facilities or opportunities, 70 percent felt we had enough windsurfing opportunities or facilities, and 59 percent felt that we had enough sail boat facilities or opportunities. On a series of questions regarding personal watercraft, 70 percent of the respondents felt that additional regulations were needed in the sound for privately owned PWCs and 65 percent felt that

additional regulations were needed for rental PWCs. (Note: the Town has adopted additional regulations since this survey.) For a full discussion of these as well as other results, please see the final report Citizens Questionnaire on Growth and Development.

The estuarine shoreline spans across eight zoning districts and into areas in our extraterritorial zoning jurisdiction. From north to south, the first area is in the SED-80 zoning district which extends south from the northern municipal boundary line to the Villas condominiums. Within this area there is 17,000 feet of estuarine shoreline, most of which is marsh and not readily accessible by land. Abutting the shoreline are 13 undeveloped lots and six residentially developed lots. The largest area within SED-80 is the property owned by The Nature Conservancy and the Town which has collectively 10,235 feet of shoreline. In the SPD-20 Zoning District, The Villas condominiums have 950 feet of shoreline and Jockey's Ridge State Park has 4,800 feet of shoreline. From Soundside Road south to The Village at Nags Head, the land is zoned R-2. The shoreline along Soundside Road is heavily rip-rapped in the areas adjacent to the road and is approximately 50 percent developed, primarily with summer cottages. In Old Nags Head Cove, most of the 4,000 feet of shoreline has been bulkheaded. Approximately 38 of the 42 lots fronting on the sound have been developed with a mix of permanent residences and summer cottages. Further south, The Village at Nags Head has 6,688 feet of shoreline adjacent to the golf course. There are no residential properties in the Village which have direct access to the sound.

The C-2 District which abuts the sound shoreline begins just south of The Village at Nags Head and extends approximately 700 feet to the Commercial-Outdoor Recreational Uses Overlay District. This C-2 District, which allows most commercial uses, has been developed residentially along the shoreline with five homes. At Forbes Street, the Commercial Outdoor Recreational Use Overlay District begins and extends south on both sides of the Causeway to the "Little Bridge." It is within this district that the Town has adopted special rules and regulations to regulate many of the commercial outdoor recreational activities. Within the Commercial Outdoor Overlay District there are approximately 22,720 feet of estuarine shoreline.

On the north side of the Causeway the shoreline follows two "islands," Horse Island (Korbach's) and Pond Island, both of which are in the low density residential district, R-1. The property owned by the Korbach's remains unsubdivided whereas Pond Island has fourteen developed residences and one vacant parcel adjacent to the shoreline.

On the south side of the Causeway, the shoreline that extends from the Washington Baum Bridge east is primarily marsh around the island owned by Ira Spencer and is zoned primarily R-1. At the east end of the "Little Bridge,"

the zoning changes back to the overlay zoning and then extends east 4,400 feet to Whalebone Junction.

The Town has extended its extraterritorial zoning jurisdiction to include an area south of the Causeway and west of NC 12 in South Nags Head. In total, there are 7.5 miles of shoreline on Bodie Island and 7.5 miles of shoreline on several islands in the Roanoke Sound. Most of the land on Bodie Island is part of the Cape Hatteras National Seashore.

- **Development Patterns**

Residential

Along the 11 miles of estuarine shoreline there are 83 single-family homes and 120 townhouses with the following breakdown: SED-80, six houses; SPD-20, The Villas (120 Townhouses); R-2, between Soundside Road and The Village at Nags Head, including Old Nags Head Cove, 52 houses; the C-2 area off Old Road, five homes; four houses on the north side of the causeway, (three of which are in the C-2 District); and 14 houses on Pond Island. On the south side of the Causeway there are two homes.

Commercial

All the commercial development on the estuarine shoreline occurs in the Commercial-Outdoor Recreational Uses Overlay Zone and the C-2 District fronting on Pond Island. Within this area (5.3 miles of shoreline) there are: two go-cart tracks, six restaurants, a motel, two mini-golf sites, and seven boat rental operators. In addition there is one major shopping center and several retail establishments, a gas station, a crab meat processing operation, and two public access sites.

Islands

Within the Town's extraterritorial jurisdiction there are numerous islands most of which are south of the Causeway. On these islands there are three "fish camps" resembling single-family homes. These fish camps have existed on these islands for many years and most have remained in the same family ownership.

- **Estuarine Areas of Environmental Concern (AECs)**

Development along, and adjacent to the estuarine shoreline is regulated by the Town, the Coastal Area Management Act through the Division of Coastal Management, and in some cases the US Army Corps of Engineers. Depending upon the location and proposed impacts from the development, approval by other addition state agencies may be required.

This AEC includes all shoreline 75 feet landward of the mean high water mark. Estuarine shorelines can be either dry land such as areas along Soundside Road and Old Nags Head Cove or can be represented by marsh grasses and coastal

wetlands. Coastal wetlands and marsh areas are typically found along Nags Head Woods and south of The Village of Nags Head and along much of the Nags Head–Manteo Causeway. Quite often these marsh areas involve wetlands which are regulated not only by CAMA, but also the US Army Corps of Engineers.

Improper development along the estuarine shoreline can result in unregulated stormwater runoff which can pollute, destroy or degrade adjacent waters and wetlands. Bulkheads and rip-rap are common permitted to protect the shoreline from erosion. Most structures built along or near the shoreline must elevate those structures in accordance with FEMA regulations to protect them from flood waters.

There are two general areas within the Town where commercial uses can abut estuarine waters. One area extends south from of the Village at Nags Head to the Causeway. However, the first part of this area around Lakeside Street while zoned C-2, has developed as residential. The other area which allows commercial uses is along portions on both sides of the Causeway.

- **Flood Zones (National Flood Insurance Program)**

In addition to CAMA regulations, the Town is a participant in the National Flood Insurance Program. As a participating community, in exchange for administrating minimal development standards for new construction, additions, and repairs in floodplains, properties in Nags Head are able to obtain flood insurance. There are four major flood zone delineations in Nags Head, the AE zone, the V zone, the X zone and the CBRA zone. Only the AE and CBRA zones are found along the estuarine shoreline.

AE-Zone/100-year Flood/Special Flood Hazard Area

This zone delineates those areas in the community which have an annual probability of one percent of being flooded, i.e., areas which will be inundated by the 100-year flood. In Nags Head, these zones are located over much of the jurisdiction. Specifically, these areas include most of the land east of NC 12 and NC 1243 and along the estuarine shoreline.

CBRA Coastal Barrier Resources Act

The Coastal Barriers resources act of 1982 designated certain portions of the Gulf and East Coast as undeveloped coastal barriers. A portion of Nags Head Woods owned by the Town and/or the Nature Conservancy is in a CBRA zone.

- **Incipient Inlets**

In any major storm or hurricane, the formation of new inlets is a possibility. Three areas have been identified as possible sites for incipient inlets.

Whalebone Junction Incipient Inlet

Whalebone Junction area was identified as a potential incipient inlet based on several factors: maximum elevation, island width, canal dimensions, and rate of erosion. Width and elevation of a barrier island appear to be the most important factors. This potential Nags Head inlet identified by Lynch is a canal which enters the island near Whalebone Junction. Lynch calls this site “extremely hazardous,” based on a composite of several of the crucial primary and secondary factors. Drawing a straight line across the island from this canal and placing a 425-foot erodible area (estimated width of area subject to erosion) on each side of this line yields the Whalebone Junction incipient inlet hazard zone.

Old Nags Head Cove Incipient Inlet

A second potential inlet has been identified in the Old Nags Head Cove area. Here finger canals have been excavated from the soundside approximately 1,000 feet perpendicular to the shoreline. This means that stormwaters from the sound would have a clear funnel traversing the island more than halfway to the ocean. This represents a serious inlet threat, and unfortunately is located in the center of a large subdivision. Extending the path of the longest canal to the Atlantic Ocean, and placing a 325-foot erodible area (estimated width of area subject to erosion) on each side of this line, yields an identifiable hazard zone. This is a crude delineation, as is the case with the other incipient inlets, and is meant only to provide decision-makers with a general idea of the geographical area of concern.

Soundside Road Incipient Inlet

A third potential inlet can be identified in the Soundside Road area just south of Jockey’s Ridge State Park. This area has been identified because of its relatively frequent flooding. Extending the path of this road, and placing a 100-foot erodible area (estimated width of area subject to erosion) on each side yields an identifiable, albeit crude, hazard zone. This same area was the site of extreme flooding and damage alongside Soundside Road (formerly Jigsaw Road) in 1962.

♦ US Army Corps of Engineer Wetlands

In addition to CAMA regulations the US Army Corps of Engineers regulations also govern impacts to wetlands. There are generally two types of 404 wetlands defined by the Corps: (1) those that are “isolated” from waters of the United States, (2) those which are “adjacent.” Adjacent wetlands can be broken down by CAMA into two categories: tidal and non-tidal. Although regulated by the US Army Corps of Engineers, all development in the 404 wetlands must meet local zoning and be consistent with local Land Use Plan designations (see Chapter 25-Land Classification System). Local zoning could limit the intensity and types of uses allowed over 404 wetlands. As the availability of land decreases, the Town could expect to see proposals for development over

wetlands. All such development would have to be on pilings and, while costly now, this situation may become more cost effective as land becomes more limited. There are several parcels in the C-2 zoning district on either side of Windmill Point restaurant and Penguin Isle restaurant which contain significant amounts of wetlands. If those areas are not developed properly, degradation of the estuarine environment could occur.

Several years ago the US Army Corps of Engineers (COE) changed their review process for administering wetland fill permits. The change involves the permit application being reviewed by the Division of Coastal Management to determine consistency with locally adopted land use plans. If the permit was consistent with the local land use plan and other rules and regulations the permit would be approved, if the permit was inconsistent with policies in the Land and Water Use Plan, the permit would be denied.

The Corps of Engineers, and in some cases the Division of Coastal Management, makes the official determination on the various types of wetlands. On occasion, the Dare County Department of Environmental Health may identify the presence of wetland areas when lots are evaluated for septic permits. In addition, some environmental consultants are trained in wetland delineation and can identify wetland types with their determination subject to COE review and confirmation. Wetland determinations are made on a case by case basis.

A brief description of the two types of wetlands:

Isolated waters (wetlands)

Isolated waters (wetlands) mean those non-tidal waters of the United States that are:

1. not part of a surface tributary system to interstate or navigable waters of the United States; and
2. not adjacent to such tributary water bodies.

Isolated wetlands can on occasion be some distance inland from the water body or another wetland. Examples of isolated wetlands includes an area in South Ridge Phase III subdivision (between 13th Street and Breeze Way), and a small depression adjacent to the relocated First Colony Inn.

Adjacent wetlands

Adjacent wetlands can have either a surface or sub-surface water connection to the larger water body. Adjacent means bordering, contiguous, or neighboring. Wetlands separated from other waters of the United States by man-made dikes or barriers, natural river berms, beach dunes and the like are adjacent wetlands. Examples of adjacent wetlands include portions of the Dowdy's Speed 'n' Spray site and some areas in South Nags Head.

Adjacent wetlands can be broken down into two categories: Tidal and Non-tidal. Tidal wetlands would generally have a surface water connection to a larger water body such as some areas close to Roanoke Sound. Non-tidal wetlands generally do not have a direct water connection to a larger water body, such as a few of the lots on the west side of NC 1243 near the Comfort Inn.

The COE will make a determination whether a wetland is adjacent or isolated. The Division of Coastal Management will then make the determination if an adjacent wetland is tidal.

- **Water Quality**

The North Carolina Department of Environment and Natural Resources-Division of Water Quality (DWQ) and Shellfish Sanitation Branch classify saltwater areas in regard to the quality and safety of the water for human and aquatic use. With the exception of three areas, all of the soundside areas in Nags Head are rated by DWQ as SA, the highest quality for recreational uses and aquatic organisms. The three areas in the sound which are closed to shell fishing, are: (1) an area off Nags Head Woods near the Town's northern municipal boundary and just downstream from the Ocean Acres sewage treatment plant in Kill Devil Hills, (2) an area in the sound off the Villas Condominiums where the wastewater discharge pipe is located, and (3) areas along both sides of the Manteo-Nags Head Causeway.

In 1995, Dare County established a surface water monitoring program which involves sampling surface waters throughout Dare County. The Dare County Water Testing and Management Program is a coordinated effort by the Dare County Commissioners and the Clean Water Advisory Committee to develop a comprehensive water quality testing and management program for the surface waters in and around Dare County. In 1996, there were five sites in Nags Head that were being sampled, four on the sound and one on the oceanfront in South Nags Head. These waters are sampled for turbidity, pH, total phosphates, total dissolved phosphates, nitrate, nitrite, ammonia, chlorides, total coliform, E. coli, and Enterococcus. With the compiling of data, the Clean Water Advisory Committee is to develop a base line parameter which will enable the committee the ability to look a water quality issue within specific drainage areas and use the information to develop management plans to address the individual needs of that area. In 1998, the Dare County Water Testing and Management Program was replaced with a sampling program conducted by the NC Department of Environment and Natural Resources, Division of Shellfish Sanitation Branch.

- **Stormwater Management**

On the soundside, there are several drainage channels or outfalls extending from US 158 to the sound. Going from north to south, these are: Soundside Road, Danube Street and Blue Fin Canal in Old Nags Head Cove, The Village at Nags Head outfall near Forrest Street, and outfalls at Finch,

Grouse, Glidden, Gull, and one at Whalebone Junction. In addition, there are at least three outfalls (ditches) in South Nags Head leading to the sound.

The outfalls were installed to drain areas of NCDOT concern, areas of Town concern, and areas of private concern. The outfalls are fed by a network of connecting ditches and culverts, some of which are NCDOT facilities, some Town facilities and some are private. North Carolina Department of Transportation performs maintenance of those outfalls which are their responsibility. Maintenance generally consists of routine cleaning and debris removal. For ditches which are under direct Town control there is a routine maintenance program performed by the Town's Public Works Department. Due to the complex nature of outfalls and permitting requirements there is a strong possibility that there will be no new outfalls constructed in the future. One of the most critical component of a functioning outfall is routine maintenance. The Town does not have a comprehensive regulatory program for the maintenance of private outfalls.

- **Public Health**

Public health, safety and welfare risks may occur in the form of flooded septic systems and flooded streets. When septic drainfield and tanks are under water there is always the concern that untreated sewage will enter into the drainage system and possibly the sound.

The Town, in 1997, established a citizens' committee to investigate the impacts, if any, resulting from the use of septic systems. This committee—the Septic Health Committee—will be comprehensively addressing issues that are associated with septic systems including maintenance and operation. The committee has established the following goal:

The Goal of the Septic Health Initiative is to reduce the need for central sewage and improve the quality of the Town's surface and groundwater by improving the performance of individual septic systems used to dispose of wastewater throughout the town.

- **Public Recreational Opportunities**

The Town has a long history of, and commitment to, providing public access to the estuarine waters. The estuarine system is a little different from the ocean beaches, in that, by law the free passage of individuals on portions of the ocean beach is allowed. In the estuarine system, property owners own land to the mean high water mark and the free right of passage does not generally apply to the estuarine system, partially because there are few sandy areas or beaches.

Along the estuarine shoreline, there are four public access areas (see 5) which provide parking and other amenities. There is one at Jockey's Ridge State Park, one at Danube Street, and two areas on the south side of the Nags Head–Manteo Causeway. One site on the Causeway is the Nags Head Causeway

Estuarine Site and Interpretive Center, and the other is a restroom, pier, and parking facility at the “Little Bridge.” In addition there are two public areas for access to Roanoke Sound. One is a trailhead in Nags Head Woods which originates at the Nags Head Woods family area. The other is a narrow pedestrian access (approximately 20 feet) off Old Street. For a full discussion, see chapter 17, Recreation.

- **Private Recreational Opportunities**

The Village at Nags Head has no estuarine access sites which provide members parking and access to piers. The Old Nags Head Cove Property Owners Association has a clubhouse, pool, and tennis courts on the estuarine shoreline. The Nature Conservancy has limited public access through their headquarters to the estuarine areas in Nags Head Woods. The Villas condominiums maintain a pool, estuarine access, and other recreational amenities.

- **Commercial, Outdoor Recreational Uses**

The Town has seen a proliferation of commercial outdoor recreational uses along the commercially zoned areas of the Town. Over the last ten years the popularity of watersports and boating and especially personal watercraft (jet skis) has increased drastically. Ten years ago the town had only two personal watercraft operators (Korbach’s and one in Caribbean Corners). Today we have seven sites with the potential to rent up to 229 watercraft. Personal watercraft can only be rented from businesses within the Commercial-Outdoor Recreational Uses Overlay District which is part of the C-2 General Commercial Services District. The overlay district encompasses the area along the sound and extends south from Forbes Street, around both sides of the Causeway, and up to the “Little Bridge.” Within this district the rental of PWCs is a conditional use and the number of boats available for rent is limited by the number of approved parking spaces. See chapters 17 and 22 for a full discussion of PWCs

- **Water Use Planning**

While most of the Town’s attention has been focused on the PWC concerns, there are other water recreational and commercial uses which occasionally compete for the same space. Among these other water uses are: kayaks, canoes, pleasure boats, (motor and sail), and windsurfing as well as commercial and recreational fishing interests. With these various users of our waterways, no single planning approach can adequately address the growing challenge of multiple water use management. There are very few solutions on which all water users will agree. Most parties will agree however, that more and better planning and management are needed to ensure safe, enjoyable boating, and non-boating waterway recreation. Multiple use waterway planning is necessary because of the increase in recreational uses of public waterways which is driven by the creation of new water oriented products and technological changes in

watercraft. An increase in traditional boating (power and sail), along with PWCs, eco-tourism, and wildlife observation tours have put an increasing burden on the environment and management systems to safely accommodate these uses. Multiple use waterway planning and management is a type of strategic planning which will: save lives, prevent injuries, protect the natural environment, preserve and enhance the boating and water use experience, reduce user conflicts, protect property and property values, and build a consensus among the various waterway users on prudent use of our water resources.

- **Recreational Fishing**

There are several commercial boat rental operations in the Town that rent small fishing skiffs to visitors and residents. The most productive fishing area for the recreational angler is the area around the Causeway, the Little Bridge, the Washington Baum Bridge, and the islands to the south of the causeway. There are no public facilities for the launching of motorized boats in Nags Head. The closest public ramp is on the west side of the Washington Baum Bridge.

- **Commercial Fishing**

Commercial fishing within Nags Head and our extraterritorial jurisdiction (ETJ) waters (which extend up to a mile into the sound) does not represent a significant industry in Nags Head. Efforts should be made, however to ensure that opportunities remain for this activity to continue. For the last two hundred years, commercial fishing has been part of the culture of the area. Of the top fifteen largest manufacturers in Dare County, ten are represented by fishing and boat interests. There is one crab meat processing operation at the foot of the Washington Baum Bridge.

Goal. The goal of the Town of Nags Head is to maintain and improve estuarine water quality and natural estuarine functions while providing water based recreational opportunities consistent with water quality goals.

1. **Shoreline**

- The Town recognizes that unregulated development along the estuarine shoreline can lead to degradation of the shoreline and the water quality in the Sound. It shall be a Town policy that the existing state regulations including CAMA AEC regulations and Town regulations adequately protect estuarine shoreline and water quality.
- The Town supports basin-wide policies that regulate upstream activities and users to an equal or greater extent than the downstream users and recipients of these waters.
- The Town recognizes that many of the water quality concerns in our waters are the result of activities which occur “upstream”. The Town

shall actively monitor all proposed rules and regulations which will affect the water quality of the entire estuary and not just the waters within the Town's jurisdiction and shall lobby for adequate safeguards from "upstream" land uses.

2. Mooring fields and houseboats

- The Town shall not permit mooring fields or allow the mooring, either on a temporary or permanent basis, of houseboats or floating homes within the Town's jurisdiction.

3. Dredging and channel maintenance projects

- The Town supports public dredging projects in and around Nags Head which are designed to provide for safer waterways and channels providing that if the spoils are deposited in Nags Head that they be disposed of in an environmentally safe manner and not be a nuisance to adjacent property owners.
- The Town supports dredging and channel maintenance projects and encourages the use of sand spoils to renourish the public beach when spoils are compatible and can be placed in a cost effective manner.

4. Visual attractiveness

- The Town recognizes that the Sound represents a valuable visual and natural recreational resource which must be properly managed and protected to maintain its attractiveness and health. The Town shall carefully review any proposed development or zoning amendment which may have detrimental affects upon the visual attractiveness of the Town and the water quality of the Sound.

5. Commercial development and residential development

- Large scale commercial and residential development built without adequate stormwater controls can lead to unregulated runoff of stormwater into the sound. The Town's existing Drainage Ordinance (which exceeds the minimum standards prescribed by the State) as it is now composed addresses and regulates runoff from development and protects the Sound's water quality.

6. Flood zones

- The Town shall continue to request from FEMA amendments to the Flood Insurance Rate Map (FIRM's) and other regulations which will more accurately reflect the flood risk in Nags Head.

7. Septic tanks and public health

- Proper placement and maintenance of septic systems located in close proximity or drains into the sound are essential for maintaining high

water quality standards. When septic systems fail, effluent can enter the sound and lead to health concerns and closures of estuarine waters. The Town supports vigorous enforcement and proper siting of septic systems which are in close proximity to estuarine waters. If needed, the Town shall support stronger regulations for on site-disposal systems.

- The town will study the impact of septic tanks on the estuarine system and may work to improve the performance of on-site waste systems.

8. Public recreational opportunities

- The continued success of the Town as a tourist and vacation destination depends in part on the continued use and expansion of recreational uses and activities on the shoreline and in the sound. The Town shall provide an adequate mix of recreational access sites for residents and visitors in order that they can enjoy the estuarine shoreline and water recreational opportunities.

9. Commercial outdoor recreational uses

- In 1995 the Town established the Commercial Outdoor Recreational Use Overlay Zoning district. The purpose of this soundside district was to accommodate the ever-growing commercial recreational development requests made to the Town. It shall be a policy of the Town to periodically review the adequacy of these regulations and make the necessary modifications when public health, safety and welfare issues arise.
- The Town shall not enlarge the overlay district and shall consider reducing the district in size or amending the uses when conflicts develop.

10. Water use planning

- Proper water use planning is essential to ensure that all water users have the opportunity to safely enjoy their particular water use activities. The Town shall periodically review the need for additional or continued water use planning to ensure that all users have an equal opportunity to use and enjoy the resource.
- The Town has adopted PWC regulations that promote recreational use safety on both the ocean and sound. To augment these regulations, the Town supports statewide legislation which establishes minimum age limits, insurance requirements for rental vendors, etc.

11. US Army Corps of Engineers (COE)—wetlands

- The Town supports vigorous enforcement of the US Army Corps of Engineers regulations on filling of wetlands.
- The Town's policy on filling wetlands is as follows:
- Isolated wetlands.
 - ♦ Policy: Isolated wetlands (either jurisdictional or non-jurisdictional) located outside the Conservation (E-1 or E-2) Land Use Classification zone can be filled and the applicant shall obtain a COE permit if a COE permit is required.
- Adjacent wetlands. (Once referred to as contiguous wetlands)
 - ♦ Policy: Tidal Adjacent wetlands. Tidal adjacent wetlands cannot be filled.
 - ♦ Policy: Non-Tidal Adjacent wetlands. Only non-tidal adjacent wetlands which are outside an estuarine AEC and/or the Land Use Classification E-1 and E-2 can be filled with COE approval with the amount of fill material limited to less than 0.10 acre.
 - ♦ Policy: Tear Sheet violations. The Town does not view "COE tear sheet violations" (de facto Corps approval) as a form of approval acceptable to the Town for the filling of wetlands.
 - ♦ Policy: Wetlands can be filled for any use allowed by the Town upon the issuance of a Minor Road Crossing Permit provided the access is only to a principal building and there is no other practical alternative means for accessing that building.

Chapter 9.

Hurricane and Storm Hazard Mitigation and Reconstruction

- Introduction

Hurricanes and severe coastal storms represent serious threats to life and property on the North Carolina coast. North Carolina is second only to Florida in the number of hurricanes striking its mainland. Between 1890 and the present, North Carolina experienced 24 hurricanes, or an average of approximately one hurricane every four years (Neumann *et al.*, 1978.). In addition to hurricanes, Nags Head is subject to tropical storms and northeasters, such as the devastating Ash Wednesday storm of 1962. Hurricanes and coastal storms create severe conditions of high winds, flooding and wave action.

Collective response to hurricanes and severe storms can be conceptualized in terms of four primary phases: (1) pre-storm mitigation, (2) warning and preparedness, (3) response, and (4) recovery and reconstruction. This chapter of the plan deals with the first and last of these stages, and divides the discussion and policy statements accordingly. Issues of hurricane preparedness and evacuation regarding traffic and transportation in Nags Head are discussed in Chapter 10.

Vulnerability to hurricane and storm hazards can be assessed first by analyzing the nature and location of physical hazards, and then by estimating the extent to which people and property are exposed to these forces. These assessments are provided below in brief fashion. A more extensive analysis is provided in the Town's 1984 *Hurricane Hazard Mitigation and Post-Storm Reconstruction Plan* and in the update of that study-A *Plan to make Nags Head, North Carolina Less Vulnerable to the Impacts Of Natural Hazards*. November 1997 (DRAFT).

- Location of Storm Hazard Areas

There are two approaches to delineating areas that are vulnerable to coastal storms. One uses proximity to the ocean; the other uses topography or elevation of the land above mean sea level. Because both have validity, both are explored.

Map 2, Hazardous Areas Map depicts the high hazard areas of the Town which includes flood zones, the 300-foot setback area from the ocean and incipient inlets. Map 2 also delineates the ocean hazard Area of Environmental Concern

(AEC). Also shown on Map 2 is a 75-foot estuarine shoreline AEC. This map and the collection of data presented below are based upon the flood zones as designated at the time this plan was prepared (Flood Insurance Rate Map Index [FIRM] #375356, dated March 6, 1996). Structures built before our participation in the Flood Insurance Program are generally termed “pre-FIRM,” whereas structures built after our regular participation in the Flood Insurance Program (1978) are termed post-FIRM.

- **Hazardous Areas Map**

300-foot Zone. Hurricane experts have argued that experience shows that the most extensive damage from hurricanes occurs within 300 feet of the ocean. While this is more a “rule of thumb” than a scientifically established hazard zone, it nonetheless represents a useful guide for measuring the extent of property at risk and appropriate mitigation measures. Much of the oceanfront property east of South Virginia Dare Trail (NC 12) and South Old Oregon Inlet Road (NC 1243) is within this 300-foot zone.

To determine the value of buildings within this 300-foot zone, an analysis was performed on all property east of NC 12 and 1243. The analysis indicated that there were 1,040 structures in this area with a value of \$290,527,689 as of January 1, 1997. Within this group of 1,040 structures, there were 214 that were built (pre-FIRM) before the Town began to participate in the National Flood Insurance Program in 1978, and may not meet flood insurance standards.

- **Flood Zones (National Flood Insurance Program)**

AE-Zone

An A-zone is a special flood hazard area inundated by the 100-year flood. Base flood elevations are not determined. The Town has one unnumbered A-zone and that is the The Fresh Pond. Fresh pond is approximately 12 acres in area and is owned by the Towns of Kill Devil Hills and Nags Head.

VE-Zone/Special Flood Hazard Area

This zone delineates areas of the Town which will be subject to substantial wave action during a 100-year storm (technically, areas of the coast which could be subjected to waves three feet high). The VE-Zone constitutes a stretch of oceanfront from the southern to the northern borders of the Town. The VE-zone is 628 acres in size. Within the VE-zone there are approximately 635 developed parcels on 534 acres. The total tax value for these developed parcels was \$236,887,019 as of January 1, 1997. Of the 635 structures, 293 were pre-FIRM and built before the Town began to participate in the National Flood Insurance Program in 1978.

AE-Zone/100-year Flood/Special Flood Hazard Area

This zone delineates those areas in the community which have an annual probability of one percent of being flooded, i.e., areas which will be inundated

by the 100-year flood. In Nags Head, these zones are located over much of the jurisdiction. Specifically, these areas include most of the land east of NC 12 and NC 1243 (although there are VE-zones along the frontal dunes), much of the land between NC 12 and US 158, portions of land west of US 158 along the estuarine shoreline, and Cedar and Pond islands. The AE flood zone is 2,158 acres in area of which 1,453 acres are developed. Development within the AE flood zones is composed of approximately 1,429 structures, with a tax value of \$254,964,860 as of January 1, 1997. Of these 1,429 structures, 489 structures had a tax value \$166,201,000 and were built prior to the Town's participation in the National Flood Insurance Program.

X-Zone/Areas of Minimal Flooding

These are areas where flooding is unlikely and are outside the 500-year floodplain. These are areas of relatively high elevation and extend from Jockey's Ridge north and west of South Croatan Highway (US 158), to the Town's northern boundary. The X-zone is approximately 1,592 acres in size with a tax value of \$185,711,000 for developed property.

CBRA Coastal Barrier Resources Act

The Coastal Barriers Resources Act of 1982 designated certain portions of the Gulf and East Coast as undeveloped coastal barriers. A portion of Nags Head Woods is in a CBRA zone.

- Incipient Inlets

Whalebone Junction Incipient Inlet

In any major storm or hurricane, the formation of new inlets is a possibility. While the prediction of inlet formation and their precise location is highly uncertain, particular physical features can be used to identify likely sites (Lynch, 1983). In an analysis of potential inlets on the North Carolina coast, the Whalebone Junction area was identified based on several factors: maximum elevation, island width, canal dimensions, and rate of erosion. Width and elevation of a barrier island appear to be the most important factors.

The potential Nags Head inlet identified by Lynch is a canal which enters the island near Whalebone Junction. Lynch calls this site "extremely hazardous," based on a composite of several of the crucial primary and secondary factors. Drawing a straight line across the island from this canal and placing a 425-foot erodible area (estimated width of area subject to erosion) on each side of this line yields the Whalebone Junction incipient inlet hazard zone.

Although not identified by Lynch, local experience (see Brower, Collins, and Beatley, 1984) indicates that there are two other areas (Soundside Road and Old Nags Head Cove) that should be considered for inlet formation.

Old Nags Head Cove Incipient Inlet

A second potential inlet has been identified in the Old Nags Head Cove area. Here finger canals have been excavated from the soundside approximately 1,000 feet perpendicular to the shoreline. This means that stormwaters from the sound would have a clear funnel traversing the island more than halfway to the ocean. This represents a serious inlet threat, and unfortunately is located in the center of a large subdivision. Extending the path of the longest canal to the Atlantic Ocean, and placing a 325-foot erodible area (estimated width of area subject to erosion) on each side of this line, yields an identifiable hazard zone. This is a crude delineation, as is the case with the other incipient inlets, and is meant only to provide decision makers with a general idea of the geographical area of concern.

Soundside Road Incipient Inlet

A third potential inlet can be identified in the Soundside Road area just south of Jockey's Ridge State Park. This area has been identified because of its relatively frequent flooding. Extending the path of this road, and placing a 100-foot erodible area (estimated width of area subject to erosion) on each side yields an identifiable, albeit crude, hazard zone. This same area was the site of extreme flooding and damage alongside Soundside Road (formerly Jigsaw Road) in 1962.

Within these three incipient inlets, there are approximately 117 structures located representing a tax value (as of January 1, 1997) of \$30,679,000. Of this number, 67 structures with a tax value of \$18,698,000 represent pre-FIRM buildings.

- **Nags Head Vulnerability and Magnitude of Risk**

For the Land Use Plan update, David Brower, Professor with the University of North Carolina at Chapel Hill, with a grant from the Division of Coastal Management developed a Model Mitigation Plan for Nags Head. As part of the vulnerability analysis he developed a geographic information system (GIS) application tailored to Nags Head for vulnerability and hazard assessment. Geographic information systems are computer programs which let you visualize geographic information that depicts relationships, patterns, and trends. In 1984, Brower performed a similar hazard analysis (not with GIS) for the Town. After creating the GIS application and necessary databases the GIS system can visually portray the vulnerability of Nags Head to natural hazards. The data can be restructured in the form of charts and tables to summarize the potential dollar losses that Nags Head could experience in the event of a natural hazard of various dimensions. For a complete account of the Model Mitigation Plan and the hazard assessment and mitigation project, see the report entitled *Natural Hazards Mitigation Plan, Town of Nags Head, November 1997 (draft)*.

What follows is a summary from that report highlighting the most pertinent information in the Town's vulnerability. Note that this analysis is in terms of tax values as determined by Dare County and not the market value of these properties, which would be considerably higher.

- Analysis shows that 59 percent of all structures in Nags Head (an aggregate tax value of \$400,639,079) are vulnerable to a Category 1 hurricane, and 83 percent of all structures (an aggregate tax value of \$568,944,769) are likely to be impacted during a Category 3 hurricane.
- Analysis also indicates that 42 percent of all developed property in Nags Head (total tax value \$290,527,689) lies within the 300-Foot Zone, while 4.5 percent (total tax value \$30,679,090) is vulnerable to incipient inlets. Property within the VE flood zone is valued at \$236,887,019, and property within the AE flood zone is valued at 254,964,860.
- The vulnerability of vacant areas (which make up 28 percent of the total acreage of Nags Head) is also significant. Of all vacant land in Nags Head, 48 percent, or 487.74 acres, is vulnerable to Category 1 hurricanes, while 89 percent, or 912.18 acres would be impacted during a Category 3 hurricane. Of Nags Head's vacant land, ten percent (100.75 acres) is within the 300-Foot Zone, and three percent, or 28.85 acres is subject to incipient inlets. Nine percent (94.57 acres) of all vacant land falls in the VE flood zone, and 69 percent (704.38 acres) within the AE flood zone.
- Approximately 70 percent of the tax value of structures in the Town were built after the Town began to participate in the National Flood Insurance Program in 1978. Structures built before 1978, did not need to meet any base flood requirements and thus may be more susceptible to flood damage.

In 1988 the Town adopted a comprehensive Hurricane and Storm Mitigation and Reconstruction Plan. Prior to developing the 1988 Plan, Brower in 1984 conducted an extensive estimation of the property-at-risk in each of the hazard zones. Several comparisons can be made between the two plans-thirteen years apart.

- In 1984, within the 300-foot zone there was \$53,317,000 (assessed valuation in 1984 dollars) of buildings that were at-risk. In the 1996 follow-up study, this value has increased to \$290,527,000.
- In the 1984 study, 40 percent of the Town's assessed value of real property was within 300 feet of the ocean. The 1996 study found that 42 percent of the property was within 300 feet of the ocean.
- In the 1984 study, the value of structures in incipient inlet areas was \$1,726,600. In 1996, that value was \$30,679,090.

Elements of the adopted 1988 Hurricane and Storm Mitigation and Reconstruction Plan include: (1) a Reconstruction Task Force composed of 13 individuals, (2) provisions for various moratoria, (3) an ordinance establishing general use standards for ocean hazard areas, and (4) a variety of other ordinance provisions related to reconstruction. Full description of this plan can be found in the Town Code of Ordinances (Chapter 16). In addition, the Town has adopted several policies which address reconstruction of damaged roads and property acquisition after a hurricane or storm and are found in the Town's policy book.

- **Strategies for Shoreline Protection**

- ***Beach Nourishment***

Barrier islands have a dynamic and ever-changing environment. Barrier islands have been shown to migrate, and are subject to a complex and numerous set of natural forces, e.g., overwash processes, littoral drift, inlet formation, dune and beach dynamics. They are further modified by storms and hurricanes. Coastal erosion, as a result of normal offshore littoral patterns, the occurrence of hurricanes and storms, and the general sea level rise which has been occurring (Titus, 1985), make development along the shores of barrier islands particularly tenuous.

In other localities, problems have arisen by allowing the construction of immovable buildings along the ocean shore, necessitating the expenditure of public funds to protect these structures when natural forces threaten them. Several methods have been used to stabilize the ocean beach. Primary among them are: (1) sand moving programs, e.g., beach nourishment, sand pushing; (2) sand trapping structures, e.g., groins, jetties; and artificial reefs, and (3) shoreline protection works, e.g., bulkheads, seawalls, revetments.

Beach nourishment programs involve efforts to push or place sand onto the beach in an attempt to build back former dunes and upper beach. Beach nourishment projects are typically expensive and the results are temporary and often require continual nourishment. A single northeaster may eliminate much of the sand deposited under a nourishment program. Beach nourishment programs, however, represent efforts to preserve oceanfront property without damaging neighboring property or destroying the public's use of the beach.

Groins and jetties are structures built perpendicular to the shoreline. Jetties are often very long and intended to keep sand from filling in inlets and shipping channels. Groins are smaller and attempt to trap sand flowing in the littoral current. Such structures are expensive, unsightly and cause extensive erosion problems down-current, as they rob these beach areas of the natural sand replenishment they would normally receive.

Shoreline protection works, such as seawalls and revetments, are built parallel to the coastline and are designed to shield directly shoreline property

from the ocean forces. The City of Galveston, Texas, for instance, has constructed a 17-foot high seawall, which protects its urban area. Such structures, however, reflect wave action, and intensify currents which steepen the profile of the beach and damage the property beyond the ends of the structure. (In the long run these structures serve to destroy or seriously undermine the beach, require continual maintenance and investment, and are largely ineffective in protecting property from shoreline processes without perpetual nourishment of the beach seaward of the hardened shoreline, and the portion of the beach available to the public would soon erode away.) Moreover, these structures are extremely costly to build. The Coastal Resources Commission, recognizing the inappropriateness of shore-hardening devices such as wooden bulkheads, seawalls, rock or rubble revetments, jetties, groins and breakwaters, has prohibited their use on North Carolina ocean beaches.

On the oceanfront several actions can result in the destruction or removal of homes. Houses can be destroyed by storms or erosion or they can be relocated either on the same lot or off the lot. Tracking the fate of oceanfront houses can be problematic. If the house is moved either on the same lot or off the lot the Town will issue a permit. If the house is condemned (for lack of septic or building code problems) the Town will also issue a permit for its removal. If the house is destroyed and in shambles on the beach it is generally too late to issue a permit. Town records reveal that there have been approximately 96 houses moved from the oceanfront or demolished from 1987 through 1996, 44 houses relocated on the same lot, and 56 properties listed as “washouts” on the Dare County tax listing. A “washout” represents a property where the building no longer exists and in all likelihood was destroyed by a storm or erosion. Most of the above building permit activity for homes destroyed, washouts, or relocated structures have occurred in South Nags Head.

In the 1996 Land Use Survey respondents were asked to rank six beach erosion abatement measures. Among all respondents, artificial reefs ranked first and beach bulldozing ranked second, followed by beach nourishment, retreat, public acquisition of property and finally, relocation.

Respondents were also asked if they would agree to pay higher taxes for various abatement measures. For artificial reefs (offshore and submerged), 66.7 percent of the respondents would agree to pay higher taxes. The next was beach bulldozing with 57.6 percent of the respondents agreeing to pay higher taxes, followed by nourishment with 55.3 percent of the respondents agreeing to pay higher taxes. The least agreeable abatement measure was relocation assistance with 21 percent of the respondents agreeing to pay higher taxes.

Since 1989, the US Army Corps of Engineers has been conducting studies to determine the feasibility of constructing a federal Hurricane and Storm

Damage Prevention Berm on portions of the northern beaches of Dare County.

These studies have: (1) determined the value of land development along the oceanfront, (2) the cost of constructing such a project, (3) the supply of recoverable, compatible sand available, and (4) the benefit cost ratio between berm construction costs and the value of the oceanfront and the near ocean structures that would be protected by such a berm.

Three sections of the northern beaches have been identified as meeting the standards for federal appropriations. One section begins in Kill Devil Hill and extends 0.72 miles south past Eight Street to the area around Admiral Street (Ocean Veranda) and the other section is from Nags Head Inn (4700 block of Virginia Dare Trail) south approximately 3.75 miles to Harvest Street (8500 block South Old Oregon Inlet Road). The preliminary construction costs are approximately 30 to 32 million dollars for the entire 10-mile project of beach nourishment. Previous nourishment projects have been funded 65 percent by the federal government, with the remaining 35 percent coming from state and local sources. The federal beach nourishment study target completion date for the study report is February 1999.

Goal. The goal of the Town of Nags Head is to reduce to the extent possible, damage to life and property from hurricanes and severe coastal storms. It is the Town's intent to reduce these hazards in advance of such events and to require mitigation measures during reconstruction which reduce damages from future storms.

1. Dunes

- The oceanfront dunes represent the first line of defense in protecting property and lives from the affects of the ocean. Maintenance and preservation of these dunes are important for the welfare of the Town and its citizens and visitors. The Town supports the CAMA rules in oceanfront development.

2. Mitigation programs

- Mitigation represents a proactive approach to reducing the vulnerability of risk to properties in the Town. The Town will investigate innovative programs and seek funds for mitigation activities that support the growth management policies of the Town.

3. Post-storm mitigation

- Following a severe storm the Town shall consider purchasing land in damage prone areas.

- Following a severe hurricane or storm all rebuilding shall be in compliance with the adopted zoning ordinance and Land Classification Map.
4. Building Code
 - The Town will support the adoption of more stringent building codes for coastal high hazard areas.
 5. Building inspectors
 - The Town shall support the continual education and training of the Town's Building Inspectors in inspections and mitigation activities.
 6. Recovery and response
 - On issues of mutual concern, the Town shall coordinate recovery and post storm response activities with Dare County, The State of North Carolina, and the Federal government.
 7. National Flood Insurance Program
 - The Town of Nags Head supports in concept the flood provisions promulgated by the Federal Emergency Agency through the National Flood Insurance Program and shall continue to enforce the Town's Flood Damage Prevention Ordinance.
 - The Town supports the Community Rating System (CRS) Program and will actively seek additional activities to increase the Town's CRS rating.
 8. Flood map and flood zones
 - The Town supports new studies by FEMA and others which will lead to a new set of Flood Insurance Rate Maps (FIRMS) which are more accurate and which reflect the actual or potential flood conditions. The revised maps should also take into account the annual effects of erosion.
 9. Beach nourishment
 - The Town supports the continuing sand replacement study currently being conducted by the US Army Corps of Engineers for the Dare Beaches. Beach nourishment in many circumstances is a feasible and practical mitigation tool. The Town supports beach nourishment projects for the Town beaches subject to commensurate funding appropriations from federal, state and local sources.
 - The Town recognizes beach nourishment as our preferred alternative for addressing ocean erosion impacts, however, the Town does supports a variety of other methods to abate the impacts to ocean

erosion. These include, but are not limited to, acquisition of threatened structures, relocation of threatened structures and the establishment of innovative technology or designs which may be considered experimental, which can be evaluated by the CRC to determine consistency with 15A NCAC 7M .0200 and the other general and specific use standards with the CAMA rules.

- The Town will support and encourage the establishment of a statewide beach management strategy and policy along with a dedicated funding program designed specifically for beach restoration and nourishment projects.

10. Relocation

- Relocation of threatened structures is a viable option in protecting these structures from the damaging effects of storms and erosion. The Town may seek funds and consider changes to the Town's adopted Flood Damage Prevention Ordinance which will assist property owners in relocating threatened structures.

11. Sand bags

- The Town supports the CAMA and COE rules as they relate to placement of sandbags on the oceanfront to temporarily protect structures but also supports an extended period of time for sandbags to remain in place for those communities that are currently under a COE nourishment study effort.

12. Beach bulldozing

- Beach bulldozing represents a temporary protection measure. The Town supports this activity when it complies with state rules.

13. Hard structures on the oceanfront

- Groins, jetties, revetments and sea walls and similar hard structures when placed on the ocean beach, interfere with the natural movement of sand and the public's right and access to the beach. The Town is opposed to hardening of the ocean beach.

14. Post storm recovery

- For post storm recovery the Town shall follow the adopted policies and regulations contained in the Town Code-Chapter 14 Storm Reconstruction.

15. Rebuilding of town's infrastructure

- In the event that Town infrastructure such as water lines and public roads are destroyed, it shall be a Town policy that infrastructure shall be built back to the established Town standards if it can be

demonstrated that there is a reasonable benefit that can be derived from these restored improvements.

- The Town shall take a proactive approach for planning for those Town streets which may be lost as a result of erosion.

16. Density of redevelopment

- Redevelopment shall be consistent with existing development that was in place before the storm event as well as the redevelopment patterns contained in the Land Classification Map and the zoning ordinance.
- As the amount of available vacant oceanfront land diminishes the Town can expect redevelopment of existing sites. It is the Town's position that the existing oceanfront development regulations adequately address concerns such as building height and density, and that currently allowed and permitted uses adequately represent the desired uses for the oceanfront.

17. Dare County Control Group

- The Town shall continue to be an active member in the Dare County Control Group in emergency situations.

18. Critical facilities

- The Town shall require Hurricane Evacuation plans from sensitive, vulnerable and critical facilities likely to contain occupants who may not be sufficiently mobile to avoid death or injury during a flood or hurricane, including, but not limited to: hospitals, nursing homes, police stations and fire stations.
- The Town shall consider higher flood regulatory standards for: vehicle and equipment storage areas, structures or facilities that produce, use or store highly volatile, flammable, explosive, toxic and or water-reactive materials that may cause environmental problems if flooded or destroyed.

Chapter 10.

Traffic and Transportation

- **Introduction**

As the permanent and seasonal populations of Nags Head expand, and the commercial areas which serve them increase in size, traffic and congestion on Town streets will become an increasingly important concern. In addition to local traffic, as the Dare beach communities grow, Nags Head will receive substantial increases in through-traffic. Two specific traffic problems can be identified: the capacity of the Town's road and bridge system to accommodate evacuation in the event of a hurricane or a severe coastal storm, and the ability of South Croatan Highway (US 158) and US 64/264, and to a lesser extent South Virginia Dare Trail (NC 12), to move traffic efficiently and safely from the Whalebone Junction area to either the Kitty Hawk area or Roanoke Island.

The existing transportation system consists of two primary roads running parallel with the Atlantic Ocean. These two roads have several names. NC 12, which is closest to the ocean is also known as South Virginia Dare Trail and as the "Beach Road." US 158, generally runs down the center of Town is also known as South Croatan Highway and formerly as the "Bypass." In addition to these two state maintained roads, there are numerous Town roads which run in an east-west configuration connecting these two major roads. In South Nags Head, south of Whalebone junction, NC 1243 (South Old Oregon Inlet Road) is a state road and is the only major road within Nags Head serving this area.

- **Transportation Improvements**

Improvements to US 158 and NC 12 since 1985 include the widening of US 158 to four lanes, and repaving and adding a paved area alongside the drive lanes on NC 12. Additional local improvements over the last ten years have included the replacement of the Washington Baum Bridge and the "Little Bridge" and completion of a parallel Wright Memorial Bridge in Kitty Hawk and Southern Shores. Anticipated projects for the Outer Banks include a mid Currituck County Bridge and the relocation of US 64-264 around Manteo and the improvement of US 64-264 outside of Nags Head to a four-lane road. While many of the problems getting to the Outer Banks especially from Virginia have been reduced by the improvement projects to US 158 and US 168 in Currituck County summer traffic is still very much a concern.

The NC Department of Transportation has completed a Thoroughfare Plan for the Outer Banks. The plan suggests improvements to US 158 and offers other suggestions for improving traffic flow in Nags Head and the Outer Banks. On April 15, 1998, the Nags Head Board of Commissioners adopted a resolution accepting the Thoroughfare Plan. Some of the major recommendations of that study are:

- Widening of US 158 to include additional travel lanes. The recommended proposed road cross sections could be a combination of: (1) seven lanes, (2) six lanes divided with possible grassed medians, or (3) a combination of the two.
- Improve NC 12 with by an additional three feet of pavement on both sides of NC 12.
- Where there is a currently a third turn lane on NC 12, the interconnecting road to US 158 should be widened to three lanes.
- Gull Street and Lakeside Street should be three lanes from NC 12 to US 158. A signal should be placed at Gull Street to address access to the Soundings Shopping Center.
- A three-lane configuration for Mall Drive (completed), Danube Street, Deering Street, Hollowell Street, and an extension of Villa Dunes Drive* from US 158 to NC 12. Three lanes are also recommended for Bladen Street, Barnes Street, an extension of West Satterfield Landing Road* to NC 12, and Eighth Street between US 158 and NC 12.
- A “flyover” at Whalebone Junction.

* Some of the three-lane sections mentioned above will require the acquisition of private property for rights of ways.

The Outer Banks Thoroughfare Plan bases most of the future traffic projections on the assumption that the mid-county bridge in Currituck, connecting the mainland to Corolla, will be built by the end of the planning period (2010).

For the 1996 Land Use Questionnaire on Growth and Development, citizens were asked about their opinions on traffic and transportation as well as what they liked least about Nags Head. These questions were both open-ended questions in that the respondent was free to answer it any way they wished. “Traffic” was the most common answer for what they liked least (280 respondents out of 1,085 responses to that question). On another traffic related questions, 85 percent of the respondents felt that the Town should limit the number of new driveways and streets entering US 158. While it may be desirable to limit access to US 158, NCDOT is very reluctant to prohibit access, and in many cases, US 158 is the only road on which the lot has public right-of-way.

- **Hurricane Evacuation**

Coordinated evacuation planning efforts between municipalities, counties, and state and federal officials will facilitate an evacuation process. The Town is a participant in the Dare County Hurricane Evacuation Plan. The decision to evacuate is made by a Control Group comprised of members of each municipality, the National Park Service, various state agencies and the county. The control group utilizes various computer models and a “decision arc” method to determine when an evacuation is needed. The decision arc method and the computer models are useful tools in attempting to determine when to evacuate and the evacuation “clearance time.” Evacuation clearance time is the time required to clear the roadways of all evacuating vehicles prior to the arrival of sustained 34-knot winds. Clearance time needed for evacuation is based on: (1) the hurricane category; (2) the expected evacuee response rate; (3) the tourist occupancy rate; (4) the evacuation routes available; and (5) the estimated time required along the routes. As Dare and Currituck County areas continue to grow, hurricane evacuation should be constantly addressed.

- **Traffic Congestion**

Compounding evacuation problems, and creating congestion and traffic demands generally, are development patterns along South Croatan Highway (US 158). Although the Department of Transportation has widened South Croatan Highway (US 158) to four lanes, its ability to accommodate traffic in an expeditious manner is threatened by the existence of strip commercial development, and numerous and frequent access points and traffic lights.

During the development of the Outer Banks Thoroughfare Plan, traffic counts were made on selected roadways. The average (1988) daily traffic volume on US 158 from Eighth Street to Whalebone Junction was reported to be 18,300 vehicles per day. According to NCDOT the practical capacity for this section of US 158 to carry traffic is 28,000 vehicles a day. DOT estimates that by the year 2010, the average daily traffic will be 48,000. A traffic count made in 1995 indicated a count of 19,800 vehicles a day on the Causeway (US 64-264) and a count of 33,200 on US 158 near Ocean Bay Boulevard in Kill Devil Hills. The practical capacity on this section in Kill Devil Hills is 28,000 vehicles per day. The count on NC 12, at Ocean Bay Boulevard was 7,400 vehicles per day with a practical capacity of 10,500.

- **Sidewalks, Multi-Use Pedestrian Paths, and Bike Paths**

In an attempt to facilitate other than vehicular access to the beach, the Town over the last five years has constructed sidewalks along Eight Street, Barnes, Bonnett and Bladen Streets and a sand-clay path that connects Old Nags Head Cove to the Enterprise Street Access. Shorter sidewalks exist at Mall Drive, Seachase and Baymeadow Drive. Several years ago the Town constructed a

multi-use pedestrian path (4.75 mile) parallel to NC 1243 from Whalebone Junction to the southern Town boundary. In addition, the Town in late 1997 completed a sidewalk along Danube Street stretching from Roanoke Sound to the Small Street Beach Access site.

In the NC-DOT Thoroughfare Plan, one of the major recommendations is to widen NC 12 with three feet of pavement on each side of the roadway.

Respondents to the 1996 Land Use Plan Survey were asked about the need for bikeways and sidewalks. Opinion was somewhat consistent on this issue, with 74 percent indicating a need for bikeways and sidewalks and 64 percent willing to pay higher taxes to finance such improvements. See Chapter 12, Recreation, for additional discussion of bikeways and pedestrian facilities.

- **Alternate Forms of Transportation**

As the Town and the entire Outer Banks continue to grow, the need for other forms of transportation such as a “beach bus” and public transportation to mainland Dare as well as other counties may materialize. Currently there are few forms of public transportation other than private taxis. During the tourist season many workers travel from the outlying communities to the Outer Banks. It is not uncommon for people to travel daily from as far as Elizabeth City to the Outer Banks for employment. Public transportation may help to alleviate transportation concerns for the work force who do not live in the Town or Dare County.

Goal. The goal of the Town of Nags Head is to provide a street and bridge system that allows efficient and safe movement of vehicles to and within the Town which also permits quick evacuation of all residents and visitors when necessary. It shall also be a goal of the town to encourage pedestrian and non-motorized transportation.

1. Improvements within the Town

- The Town shall consider improving existing unimproved Town streets only when a need has been demonstrated.
- The Town does not favor improving those cross streets which have been identified by NCDOT in the Thoroughfare Plan connecting NC 12 and US 158 until a need has been demonstrated.
- During the subdivision process the Town shall require a wider right of way and greater construction standard to proposed town streets when it can be demonstrated that the proposed street may be required to accept local traffic from other nearby streets which may be damaged or threatened or closed by natural events.
- The Town will evaluate all future development for its impact on traffic congestion and manage this development so as to minimize its

impact on traffic. More specifically, the Town encourages development to exit on side streets rather than South Croatan Highway.

2. Improvements getting to the Town, traffic congestion
 - The Town will lobby NCDOT for the necessary road improvements in getting people to the town.
 - The Town will petition and work with NCDOT to find ways to reduce the traffic congestion within the Town on US 158.
 - The Town will lobby NCDOT when the need has been demonstrated for improvements to reduce congestion and increase efficiency on NC 12 and US 158. Such improvements including, but not limited to medians, signal coordination, new signals or the removal of existing signals.
3. US 158 improvements and configuration
 - The Town shall investigate innovative methods and programs designed to reduce the need for and the numbers of vehicles within the Town.
 - To improve air quality and prevent its deterioration due to automobile emissions the Town shall seek innovative methods to reduce the need for and number of vehicles within the Town.
 - The Town supports a “flyover” design at the Whalebone Junction intersection.
4. Hurricane evacuation
 - The Town will lobby NCDOT for highway improvements which will allow for safe and efficient movement of traffic out of Town in the event of a mandatory evacuation.
5. Sidewalks
 - The Town will lobby and work with NCDOT for construction of a detached multi use path along the east side NC 12. The Town will cooperate with NC DOT and other municipalities in developing a coordinated Pedestrian Multi-use path on the Outer Banks.
 - The Town will plan and install these sidewalk improvements to correspond with existing and proposed NCDOT’s signalization plan.
 - The Town will continue to install sidewalks within Town right-of-ways to facilitate pedestrian traffic and movement to recreational sites and amenities and other areas which generate pedestrian traffic when the need is demonstrated.

- The Town shall consider requiring the install sidewalks and other pedestrian facilities as part of the required infrastructure and improvements for new subdivisions.
6. Nags Head pedestrian transportation system
 - The Town places a high value on and encourages the use of alternative means of transportation including bicycles. The Town will continue to implement its adopted Nags Head Pedestrian Transportation System Plan and will seek sources of funds for improvements for that Plan.
 7. Thoroughfare Plan
 - The Town conceptually accepts the Outer Banks Thoroughfare Plan dated March 1996.
 8. Bus service and public transportation
 - The Town supports a regional or local transit system as a form of public transportation to move visitors and workers not only within the Town but also to and from the Town from outlying areas.
 9. Intergovernmental cooperation
 - The Town shall actively seek cooperation with other units of government to address common traffic and pedestrian problems and improvements
 10. Street lighting
 - The Town will consider using streetlights to address specific safety issues. The Town does not desire to light the entire length of US 158 and the Town is very cognizant of negative affects of ambient light reflected into the night sky.

Chapter 11.

Wastewater Disposal

- Introduction

As population and development continue to grow in Nags Head, the need for increased sewage disposal capacity will increase as well. Currently the predominant method of sewage treatment for low-density development in Nags Head is the use of septic tanks. For some higher density projects in the Town, several package treatment plants have been built to accommodate this need. It is likely that the Town will continue to rely on on-site septic systems as the primary means of treatment, along with package plants for higher density uses. Based on several EPA studies the Town presently does not view the installation of a public sewage system as either economically sound or consistent with desired levels of density.

In 1984, the Town participated in a carrying capacity analysis to determine the amount of development a given geographic area can absorb without significantly damaging the environment or endangering the public health, safety and welfare of the citizens. Regarding the use of on-site septic systems, the report concluded that the soils in Nags Head are generally unfavorable for the use of septic systems. The report further states that, “The Town already far exceeds the capacity of the soils to treat wastewater through on-site septic systems without representing a threat to environmental quality and the risk to Public health.” For the full report, see Brower, *et al.* 1984.

There are generally two categories of sources of pollution: “point” source and “non-point” source. Point source pollution is that pollution where there is a defined source, such as a pipe or ditch which empties into a body of water. With non-point sources of pollution the actual source can not be verified, such as a pollutant that travels through the soils or groundwater to a surface water body. Septic systems, when not properly sited or maintained, have often been suspected as being non-point source of pollution. Currently in the town there is one wastewater treatment plant—the Villas—which discharges treated effluent into Roanoke Sound. There are 120 dwelling units on that system.

The NC Department of Environment and Natural Resources-Division of Water Quality (DWQ) and Shellfish Sanitation Branch classifies salt-water areas in regard to the quality and safety of the water for human and aquatic use. With the exception of three areas, all of the soundside areas in Nags Head are rated

by DWQ as SA, the highest quality for recreational uses and aquatic organisms. The three areas in the sound which are closed to shellfishing and not SA are: (1) an area off Nags Head Woods near the Town's northern municipal boundary and just downstream from the Ocean Acres sewage treatment plant in Kill Devil Hills, (2) an area in Roanoke Sound off the Villas Condominiums where the wastewater discharge pipe is located, and (3) areas along both sides of the Manteo-Nags Head Causeway.

- **Septic Systems**

A septic tank is basically a detention tank in which some of the solids settle out of the wastewater and undergo anaerobic digestion in the tank. The wastewater moves by gravity out of the tank to a system of tiles or pipes in subsurface trenches, (the drainfield) where treatment by bacteria in the soil is followed by absorption of the wastewater into the soil.

A properly functioning system relies upon the soil to absorb and adequately treat all wastewater generated from a site. All soils, however, are not suitable for septic tanks as they may not allow wastewater to drain through the soil or they may allow wastewater to pass to the groundwater too quickly, hence, without adequate treatment.

The advantages of disposal by septic systems are the uses of natural aeration and filtration to treat wastewater. They are close to the source of the wastewater, and are cost-effective. The disadvantages and limitations of the use of septic systems are that, if they are not properly maintained, are used incorrectly, or placed too close to the Roanoke Sound it may lead to degradation of water quality.

Currently there are 5,080 dwelling units and hotel units in the Town. Of that number, 4,360 or 86 percent of the existing dwelling units in the Town of Nags Head, are using septic tanks. The potential contamination of water is a function of several factors, including soil suitability, depth to the water table, and proximity to surface waters. Soils on the Outer Banks are generally unsuitable for septic systems. Under Soil Conservation Service (SCS) criteria most soil in Nags Head is classified as having severe or very severe limitations to septic tank use. Evaluations of soils following to State Health Department criteria differ substantially from the SCS criteria, and generally indicate that soils are not as unsuitable for septic tank usage as the SCS criteria would indicate. This discrepancy results from the fact that State regulations do not address soil permeability as a factor in soil suitability for septic tank use. State regulations allow on-site wastewater disposal in extremely porous soil where depth to water table is greater than 12 inches.

State regulations govern the installation, location and use of septic tanks. (GS 103A-335). Current regulations require a repair and replacement area of equal size to the septic system on any lot recorded after January 1, 1983.

Tertiary treatment utilizing package plants or through a public sewage treatment system can reduce adverse impacts resulting from improperly maintained or sited septic tanks. These alternatives could indirectly necessitate higher densities of development and are inconsistent with the desires of Nags Head to develop at relatively low densities. Many residents may wish to see the benefits of a public sewer system but are unwilling to accept the higher development densities and costs that could accompany it.

Currently within the Town there are four package sewer treatment plants which provide services to 720 hotel and dwelling units. The Nags Head Village Service Company system currently treats 395 dwelling units in The Village at Nags Head and all uses in the Outer Banks Mall. The Villas system treats 120 units, the Nags Head Inn system treats 100 units, and the Comfort Inn facility treats 105 units. The primary authority to regulate these systems is the Dare County Department of Environmental Health and the State Division of Environmental Management.

The Town established in 1997 a citizens' committee to investigate the impacts, if any resulting from on-site septic systems. This committee—the Septic Health Committee—will be comprehensively addressing issues that are associated with septic systems, including maintenance and operation, while encouraging on-site septic systems as the preferred method of sewage treatment in the Town. The committee has established the following goal:

The Goal of the Septic Health Initiative is to reduce the need for central sewage and improve the quality of the Town's surface and groundwater by improving the performance of individual septic systems used to dispose of wastewater throughout the town.

Goal. The goal of the Town of Nags Head is to provide an economic and environmentally sensitive means of sewage treatment and disposal which maintains or improves the quality of the Town's surface waters and groundwater, and maintain low density development.

1. Preferred method of treatment

- The preferred form of sewage treatment and disposal shall be the on-site septic systems.
- It shall be a policy of the Town to reduce, through zoning and other regulations and policies, the need for central sewage.

2. Septic systems, maintenance
 - The Town realizes that proper maintenance of septic systems is essential for their safe operation and may develop and distribute educational materials to the residents and visitors of the Town on the correct use and maintenance of septic systems.
 - The Town will develop a decentralized Wastewater Management Plan to assure optimum operation and maintenance of on site septic systems.
3. Failing systems (residential)
 - Through the Septic Health Initiative Committee the Town shall develop preventative and educational programs and consider funding programs designed to identify and correct failing septic systems.
4. Package treatment plants
 - The Town supports the proper maintenance, operation and use of existing package treatment plants.
 - The Town will not take over the control and operation of any failing or failed private sewage treatment systems.
 - The siting of new package treatment plants will not be supported by the Town.
5. Public sewer system
 - The Town is opposed to and will not support a municipal, regional, or central sewage collection and processing system.
6. State and local Health Department inspection and regulation
 - The Town supports the strict enforcement of all state and local rules on proper siting of waste treatment systems.
7. Point source discharges: ocean and sound outfalls
 - The Town shall be cognizant of the negative effects of point sources of wastewater pollution and shall seek ways to remove any existing point sources of wastewater discharge and shall not permit future point sources of wastewater discharge.
 - The Town is opposed to and will prohibit any proposed ocean and sound wastewater outfalls.
8. Non point source pollution
 - The Town shall seek funding and shall support water quality testing of the ocean and sound waters to determine the extent, if any of non-point sources of pollution.

9. Waster classification SA, SB etc.

- The Town shall seek strict enforcement of existing laws and regulations and shall consider new regulations, if needed, to protect estuarine water quality.
- The Town does not consider a water classification of SB or SC acceptable and will support research to determine the sources of pollution and consider or lobby for additional regulations or enforcement of existing regulations to prevent further degradation and shall seek measures to enhance water quality where needed.

Chapter 12.

Stormwater and Water Quality

- **Introduction**

As the Town continues to grow more and more of the ground's surface area will be covered with buildings, parking lots and roads. When development containing a large proportion of its area in impervious surfaces (e.g., parking lot pavement, roadways) is in close proximity to the shoreline, the potential for runoff into estuarine waters is increased. As the Town approaches build-out, the quantity of stormwater runoff will increase and if not retained or detained this increase in impervious surfaces could have an adverse impact on estuarine water quality.

The Town borders two large bodies of water, Roanoke Sound to the west and the Atlantic Ocean on the east. The Roanoke Sound is a large, relatively shallow body of low saline water. The sources of water for the Sound are primarily from inland rivers and tributaries. Some limited exchange of ocean saline water occurs at the inlets, primarily Oregon Inlet, Hatteras Inlet, and Ocracoke Inlet. The water quality of the Sound can be degraded depending upon the types and quantities of pollutants. Freshwater runoff itself can be considered a pollutant in that the runoff may change the salinity of the sound. Any pollutants, i.e., oils, heavy metals, pesticides, etc., carried by this runoff can further affect the water quality of the Sound.

- **Stormwater Management Plan**

In order to adequately address growth and potential runoff from storms and normal rain events, the Town in the 1990 Land Use plan established a policy to develop a detailed street and drainage improvements plan. More importantly, the Town also adopted a policy to "...develop a comprehensive long-term stormwater and drainage plan." This policy was based on the specific goal of protecting the quality of our estuarine and groundwater resources. In the fall of 1995, the Town adopted a Stormwater Management Plan and Stormwater Management Ordinance. The stormwater policies in the 1990 Land Use Plan have been incorporated into the ordinance. The ordinance is designed to minimize the rate and volume of stormwater runoff that enters into these systems, thereby diminishing, to a large extent, the environmental degradation often associated with drainage systems. In a

broader sense, both the plan and ordinance support traditional development patterns, i.e., single-family and duplex construction, which the Town has been encouraging as a primary goal through the land use planning process. These built-in incentives (for example, in the subdivision process) recognize the contribution that stormwater generates from single-family development sites. It requires the subdivider to comprehensively address drainage at the time of plat approval and to install drainage improvements prior to final recordation of the plat. This relieves the homeowner/contractor from having to address drainage at the time of building permit issuance. A concerted effort has been made to ensure consistency between the Stormwater Management policies/ordinance and the 1990 CAMA Land Use Plan.

Prior to adopting the Stormwater Management Ordinance, a Stormwater Management Plan was formulated based upon prior studies and projections of future build-out. The Management Plan addressed the existing drainage system and the natural features that influence drainage. Several conclusions from that Management Plan are:

1. Because of relatively low lot coverage in the R-2 District, an increase in impervious area will not significantly result in an increase of stormwater runoff.
2. Toward build-out, impervious coverage in the C-2 District will have the greatest impact on runoff. Two options exist for regulating the expected increase in runoff. One is to improve the drainage system, and the other is to manage stormwater on-site. The adopted ordinance regulates on-site management of stormwater.
3. Several factors affect drainage (a) Soils. The permeability of soils in Nags Head is generally high, thus stormwater can be absorbed quickly into the soils. (b) Groundwater. The height of the water table will affect how much water can be absorbed. The higher the groundwater level, the less water can be absorbed into the soils. (c) Evapotranspiration. Vegetation, especially in forested areas can account for a large quantity of water loss through evaporation from the soil and transpiration from surface of the leaves. (d) Wind and tide effects on groundwater. Strong onshore winds will cause the groundwater level to increase in the area adjacent either to the oceanside or soundside of the island. (e) Septic systems can introduce an additional volume of water into the groundwater system, which can cause the level of the groundwater to increase.

This Stormwater Plan and Ordinance will ensure that the Town's drainage and stormwater issues are dealt with and resolved in an orderly, coordinated, and fair fashion.

Perhaps the most evident procedural change in the plan and ordinance is that specific and measurable standards are established by which the Town and developers can better gauge compliance with the goals and policies of the Stormwater Plan. In addition, a prioritization of drainage improvements and their associated costs will be incorporated into the annual Capital Improvements Program and reviewed by the Board of Commissioners as part of the budget process.

One major theme of this Management Plan is that stormwater will be handled in an environmentally safe and efficient manner. On-site retention facilities are a key component of the ordinance. Like the State's (Division of Environmental Management) stormwater regulations, the Town's ordinances requires that all resulting runoff from the first one and one-half inches of rainfall must be retained on-site. Beyond this, the Town will require the developer to safely manage on-site the 10-year, two-hour storm event which is equivalent to 4.3 inches of water with some allowances for minor flooding of parking stalls. Greater on-site impacts, but no unimproved off-site impacts will be allowed for rainfall events exceeding the 10-year storm up to a 25-year storm. A developer will not be required to manage runoff from a storm exceeding a 25-year return frequency. These and other provisions of the ordinance greatly minimize the volume of potentially polluted runoff that would otherwise be disposed of into the estuarine and ocean waters.

Under today's zoning ordinance, certain types of development such as automobile service stations and go-cart tracks are required to retain more runoff from impervious surfaces than what the Stormwater Management Plan requires. These enhanced standards are designed to protect surface water runoff from possible gas and oil spills.

The Stormwater Plan and Ordinance is designed to ensure that the drainage concerns will be adequately met at build-out with no major infrastructure improvements needed under current regulatory and development regulations.

- **Ocean and Estuarine Outfalls**

Within the Town there are five ocean outfalls operated and maintained by NCDOT. The northern outfalls, Carolinian, Curlew, old Casino (Kitty Hawk Kites), and Conch Street generally drain some of the land areas between NC 12 and US 158. Direct runoff from portions of US 158 is eventually channeled through several of these outfalls. The outfall in South Nags Head drains much of the ditch alongside NC 1243. With the exception of the South Nags Head outfall, the other outfalls primarily function during storm events.

On the soundside, there are several drainage channels or outfalls extending from US 158 to the Sound. Going from north to south, these are: Soundside Road, Danube Street and Blue Fin Canal in Old Nags Head Cove, The

Village at Nags Head outfall near Forrest Street, and outfalls at Finch, Grouse, Glidden, Gull, and one at Whalebone Junction. In addition, there are at least three outfalls (ditches) in South Nags Head leading to the sound.

The outfalls were installed to drain areas of NCDOT concern, areas of Town concern, and areas of private concern. The outfalls are fed by a network of connecting ditches and culverts, some of which are NCDOT facilities, some of which are Town facilities and some of which are private. Maintenance of the outfalls is NCDOT responsibility and generally consists of routine cleaning. For ditches which are under direct Town control there is a routine maintenance program performed by the Town's Public Works Department. Due to the complex nature of outfalls and permitting requirements there is a strong possibility that there will be no new outfalls constructed in the future. One of the most critical component of a functioning outfall is routine maintenance.

- **Groundwater and Ocean Overwash**

As with any low lying coastal community, surface groundwater and ocean overwash are areas of concern. Recently, the Halloween storm of 1991, which was a northeaster following a late season hurricane, caused an erosive wave pattern which eroded significant dune areas and caused significant ocean overwash. Subsequent storms in the winter of 1992/1993, and the summer of 1994 resulted in some overwash due to the dunes weakened in the Halloween storm of 1991. Some of the areas affected by the overwash drained relatively quickly, while standing water affected some areas for a week or so. The flooding is currently sporadic, and while immediate resolution is not needed it should be noted that the ocean overwash flooding cannot be prevented by the Town acting alone, but might be mitigated or reduced by a community-wide beach nourishment program.

The adopted Stormwater Management Plan and Ordinance address ocean overwash. Development plans in areas identified as in Overwash Drainage District by the Stormwater Management Plan shall indicate how ocean overwash flooding will be managed. Swales, culverts, and other features may be necessary to allow drainage from ocean overwash. In addition, proposed development shall not create obstructions or interfere with existing overwash patterns, rates or volumes except where alternative management facilities are provided and approved by the Town

- **Public Health**

Public health, safety, and welfare risks may occur in the form of flooded septic systems and flooded streets. When septic drainfield and tanks are under water there is always the concern that untreated sewage surface and enter into the drainage system.

- **Water Quality Monitoring**

In 1995, Dare County established a surface water monitoring program which involves sampling surface waters throughout Dare County. The Dare County Water Testing and Management Program is a coordinated effort by the Dare County Commissioners and the Clean Water Advisory Committee. One of the first initiatives of this Committee is to develop a comprehensive water quality testing and management program for the surface waters in and around Dare County. In 1996 there were five sites in Nags Head that were being sampled, four on the sound and one on the oceanfront in South Nags Head. These waters are sampled for turbidity, pH, total phosphates, total dissolved phosphates, nitrate, nitrite, ammonia, chlorides, total coliform, E. coli, and Enterococcus. With the compiling of data, the Clean Water Advisory Committee is to develop a base line parameter which will enable the committee the ability to look at water quality issues within specific drainage areas and to use the information to develop management plans addressing the individual needs of that area.

While this is a valuable and important program, of even equal value is how the information derived from sampling will be utilized, and what procedures and protocols will be developed and followed to inform any governing body and the public about any potential public health concern if a problem area is found.

In 1998, the Shellfish Sanitation Branch of the NC Department of Environmental and Natural Resources, Division of Water Quality assumed the sampling duties of this program.

- **Conclusion**

Over the last few years the Town has taken significant steps in controlling and regulating stormwater runoff with the adoption of the Stormwater Management Plan and Ordinance. Stormwater runoff generally only becomes a public concern when streets and lots flood or when state or federal agencies address the effects of the runoff into estuarine or ocean waters.

Goal. The goal of the Town of Nags Head is to manage stormwater in ways that reduce the risk of flooding while disposing of stormwater in an environmentally sensitive manner. It shall also be a goal of the Town to participate in the improvement of water quality of the Albemarle Pamlico estuarine system.

1. Stormwater Management Plan

- The Town shall continually assess and evaluate the Stormwater Management Plan and update the plan when necessary
- The Town supports the basinwide approach to water quality planning which recognizes the need to regulate pollutant contributions from up-stream as well as down stream uses.

- In conjunction with state and county statutes, the Town shall work to minimize the conflicts associated with the disposal of both on-site sewage effluent and stormwater retention.
 - The town shall actively work to minimize the rate and amount of stormwater runoff into ocean and sound waters and the impact that stormwater has on those waters.
 - Where practical, the Town supports an open swale conveyance system for stormwater run-off which maximizes the vertical infiltration and reduction of stormwater pollutants
2. Ocean outfalls
- The Town does not support the construction of additional ocean outfalls.
 - The Town shall actively lobby NCDOT for continued maintenance of the existing ocean outfalls. The Town recognizes that maintenance is essential for the proper functioning of these outfalls.
 - The Town will work to eliminate existing ocean outfalls when economically viable alternatives exist for land disposal.
3. Estuarine outfalls
- The Town shall lobby NCDOT to consider alternative methods of stormwater treatment/retention in an attempt to eliminate the number or dependence upon sound outfalls.
4. Private outfalls
- The Town is opposed to and will not permit any additional private estuarine outfalls and will seek ways to mitigate any detrimental effects of existing outfalls.
 - The Town shall consider developing and adopting regulations which address maintenance and upkeep of private stormwater drainage facilities.
5. Ocean overwash
- The Town recognizes that ocean overwash can have a detrimental affect on private property and public infrastructure and will seek ways to mitigate or prevent the event from happening in the first place. These actions may include dune restoration and stabilization as well as secondary dune protection measures.
 - The Town supports any additional CAMA rules governing stormwater runoff providing such rules have: 1) been scientifically

demonstrated to improve water quality; and 2) are in harmony with existing Land and Water Use Plan.

- The Town supports basinwide approach and application of equitable rules and regulations.

6. Public health, public notice

- The Town recognizes that when ocean beaches and estuarine areas and waters are closed for health reasons, proper public notification of the closures is essential for public safety. The Town will work with the respective regulatory agencies to develop a protocol and to ensure that public notification is released in a timely manner after careful monitoring has indicated that the agreed upon standards have been exceeded.

7. Water quality monitoring

- The Town realizes that water quality testing is essential in determining if any problems or concerns exist in waters surrounding and within the Town. The Town shall consider either establishing a program of water quality testing or request that additional sites be tested to ensure that a larger section of Town is routinely sampled.

8. Comprehensive Conservation and Management Plan (CCMP)

- The Town supports the conclusion and recommendations of the Albemarle Pamlico Region Comprehensive Conservation and Management Plan.

9. Culverting

- The Town does not support the culverting of existing ditches. The Town supports open ditch infiltration unless culverting is necessary for stormwater reasons.

Chapter 13.

Water Supply and Distribution

- Introduction

The central issue with respect to water supply is what level of development will require capital improvements in the water supply, in processing, and in the distribution system. Each component in the water supply system represents a fixed and finite capacity which must be increased as demand approaches its capacity. Increased capacity in this case is a matter of increased capital expenditure, as well as finding an available source of water which is or can be made potable.

The Town's water system is composed of two components: water processing and distribution. With the exception of water which is processed from the Fresh Pond during the summer months, all other water is received from the Regional Water System for distribution through the Town's own distribution system.

As required by the N.C. Department of Environment, Health and Natural Resources, Division of Water Resources, the Town has prepared and adopted a Water Supply Plan. The Plan is an assessment made by the Town of the water needs through the year 2020. The Plan compares these water needs to the ability of current sources of water supply to meet those future needs. A copy of the Plan is on file at the Town of Nags Head offices.

The following is an excerpt from The Water Supply Plan prepared by Dare County, The Towns of Kill Devil Hill, Nags Head, Manteo, and the Cape Hatteras Water Association.

The Dare Regional Water Supply System (DRWSS) produces all of the water for four of the five major Water Suppliers on the Northern Beaches in Dare county. The Peak Day usages of all of the water systems and the allotment of the three major wholesale purchasers from the DRWSS are listed below.

The DRWSS's present maximum production capacity is 9.5 MGD (single day maximum). Although the Peak Day for the DRWSS on August 10, 1992, reached 6.583 MG, the total of all of the four wholesale purchasers' peak usage figures in 1992 accumulate to only 6.212 MG. Not one of the wholesale purchasers experienced their Peak Day on the same day. So it is safe to say that the peak demand on the

DRWSS must be determined based on the peak demand of water to be delivered by the DRWSS to the wholesale purchasers, rather than by the total of the individual peak demand gallonage delivered by the individual water systems.

The DRWSS's three major wholesale purchasers: Dare County, Kill Devil Hills and Nags Head, have contracted with the DRWSS to receive an allotment of water which now exceeds their individual customer demand. In fact, calculations by all three entities project their allotment will suffice for customer demand until after the year 2000.

(DRWSS peak day 7/3/98, 7.537 mgd)

- **Water Supply**

As mentioned above, Nags Head, Kill Devil Hills, and Dare County have established a Regional Water System. Each entity is entitled to a set amount of water from the total system capacity. Three sources of water are used to supply the regional system: the aquifer under Roanoke Island, the Fresh Pond, and the reverse osmosis (RO) plant located in Kill Devil Hills. The Fresh Pond is located on the Nags Head Kill Devil Hills municipal boundary with approximately half of the Pond situated in each municipality.

The wholesale cost of water is dependent upon the source. When the Fresh Pond plant is processing water during the summer, the cost to produce that water is \$0.75 per 1,000 gallons. During the summer water is purchased through the Regional Water System to supplement water from Fresh Pond. For the remainder of the year, all water is purchased through the Regional Water System at a wholesale cost of \$1.60 per 1,000 gallons (1997 dollars). One limiting factor for the Fresh Pond is the availability of water to process when the lake level falls during times of serious drought.

The Town's allotment from the regional water system is 3.5 million gallons per day (MGD) or 2,300 gallons per minute (GPM). Currently, it is estimated that 2.116 MGD has been committed to existing development, leaving 1.184 MGD for future development. Based upon growth observed between 1985 to 1995, there may be enough water for the next 14 years. For commercial development, the last six years of water consumption unit allocation, (WCU) was examined and found that three WCUs per acre of commercial developed land represents a conservative estimate of potential water use by commercial establishments. (See Table 13.1.). A water consumption unit is an amount of water consumption equivalent to 400 gallons per day.

The reverse osmosis plant which was completed in 1990 is currently capable of producing three MGD. Nags Head's share is currently one MGD, and can be increased by another one MGD with the purchase of a new RO module (1.7 million dollars including wells and supply pipes).

A water demand analysis report in 1985 estimated the peak daily, summer demand on the Nags Head water system. Analysis of actual billing data produced the following peak daily estimates: dwelling units, 400 GPD; motel unit, 213 GPD; restaurant seat, 35 GPD; retail space, 15 GPD per 100 square feet of gross retail space; office space, 7.5 GPD per 100 square feet of gross office space. The Town continues to use this information to calculate water consumption and impact fees for various types of new construction.

Table 13.1 Projected peak day demand on the Nags Head water system for dwelling units (DU's) and other uses at build-out.

Table 13.1. Projection of WCUs					Build-out = 14± years	
Projected	Existing		Projected		Total	
	DU's	WCUs	DU's	WCUs	DU's	WCUs
SF/Duplex	3,129	3,129	1,526	1,526	4,655	4,655
Multi-family	319	319	168	168	487	487
Cottage Court	324	324	0	0	324	324
Hotel	1,308	654	140	70	1,448	724
Commercial		864		534		1,398
Total	5,080	5,290	1,834	2,298	6,914	7,588
Current usage: 5,290 WCUs x 400 GPD = 2,116,000 or 2.116 MGD						
Proposed usage: 2,298 WCUs x 400 GPD = 919,200 or .919 MGD						
Total usage: 7,588 WCUs x 400 GPD = 3,035,200 or 3.03 MGD						
Commercial = all other uses except residential including hotel @ 3 WCUs/acre						
288 existing acres developed as commercial (non-residential) 288 x 3 = 864 WCUs						
Potential non-residential 178 ac x 3 = 534 WCUs						

- **Water Distribution System**

The current capacity of the pumps which provide water for Nags Head is 2,800 gallons per minute. During peak periods in the summer months, Nags Head consumes 1,800 gallons per minute of this capacity. This results in 1,000 gallons per minute excess capacity for use by future development. Using 400 gallons per day as the current average use per dwelling unit, an additional 3,600 dwelling units can be added to the system before additional pumping capacity is necessary. (See Table 13.2.)

Table 13.2. Nags Head Water Distribution System	
Sustainable pumping capacity (non-emergency)	2,800 GPM or 3.5 MGD
Nags Head peak use ¹	2.48 MGD
Maximum peak use ² (emergency)	3,000 GPM
Total additional WCUs possible without adding pumping capacity	3,600 WCUs
STORAGE TANK CAPACITY	
Ground storage	1,000,000 gallons
Elevated storage	800,000 gallons
Total storage capacity	1,800,000 gallons
Hours available on total storage service alone (without power failure)	16.6
Hours available on storage service from elevated tanks (with power failure)	7.4
Hours required to fill all tanks from empty (while serving at peak usage)	13.3
¹ The peak single day for gallons pumped by the Nags Head water plant was 2.48 million on August 8, 1997.	
² Sea Pointe fire, August 1990.	

An additional concern with pumping capacity is the time it takes to refill the storage tanks. As the Town's consumption approaches its pumping capacity, less excess pumping capacity is available to refill these tanks and the rate of refill therefore is slower. In the last five years the Town has increased its storage capacity by 500,000 gallons with the completion of the South Nags Head elevated tank.

The total storage tank capacity in Nags Head is currently 1,800,000 gallons between the following three sites: 500,000 gallons at the elevated storage in South Nags Head; 300,000 gallons at the Town Municipal site; and 1,000,000 in ground storage at Gull Street. This 1,800,000 gallon storage capacity could serve Nags Head water consumption from storage alone for approximately 16.6 hours at peak consumption. In the event of a power failure, the Town's elevated storage tanks could serve the Town for only 7.4 hours at peak usage. It should be noted, however, that peak consumption occurs infrequently for relatively short periods of time. If the tanks were empty, over 13 hours would be required to refill them while serving regular demand, using the excess 1,000 gallons per minute of pumping capacity currently available. As more water users are added to the system, this excess capacity diminishes, and the refill period becomes longer.

The capacity of the water distribution mains that serve individual neighborhoods in Nags Head is a critical threshold to the growth in these neighborhoods. When the size of a water main is inadequate for the volume of water demanded by its users, pressure loss results. Relating the size of such mains in newly developed areas to the potential total demand on the main is crucial to the future capacity of the main to provide water to all potential users.

The Town receives water from the Regional Water System through 24-inch lines along US 158 and distributes this water to residents using a 12-inch trunk line along South Virginia Dare Trail (NC 12) and portions of South Croatan Highway (US 158) and along South Old Oregon Inlet Road (NC 1432). This 12-inch line feeds a distribution network of 10-inch, 8-inch and 6-inch water lines, with much of the Town served by the 6-inch lines. The number of dwelling units that can be connected to the 6-inch line is limited. As more units tap onto this system, velocity of the water in the mains must increase to provide the same level of service. In South Nags Head, this situation was remedied with the completion of a new 12-inch line and an elevated tank.

A portion of the Town's distribution system along NC 12 and US 158 consists of dual distribution lines. Throughout the years the Town has attempted to establish redundant distribution lines not only to provide better service but also as a backup should the other distribution mains need repair or maintenance. Weaknesses in the distribution system include some areas along NC 12 and US 158 where there are not two mains and the fact that there are many dead-end lines which can lead to water quality and pressure concerns as well as complaints and dissatisfaction with consumers.

The Nags Head system currently operates at 40 to 62 PSI. The losses of pressure due to friction over distance can be severe, as was the case in South Nags Head until a new water storage tank and distribution lines were installed several years ago. In the past five years, the Town has eliminated most dead-end lines and is working to loop water lines where possible to adequately address water flow and pressure. A new 12-inch line may be needed along portions of South Croatan Highway (US 158) to parallel the 12-inch line along South Virginia Dare Trail (NC 12). If pressure falls low enough, the ability to fight fires using hydrants along the water line becomes inadequate, leading to safety concerns.

The Town currently maintains a 6-inch asbestos cement water line from the southern municipal limits at NC 1243, south to Oregon Inlet Fishing Center. This line was installed in the early 1960s and by agreement the Town has assumed responsibility for providing maintenance and water service to these areas.

Goal. The goal of the Town of Nags Head is to provide sufficient levels of potable water to accommodate water demand at

build-out through economical and efficient means and in an environmentally sensitive manner.

1. Water processing, pumping
 - The Town shall continually monitor the Town's water processing capacity and make the necessary system improvements when needed.
2. Water distribution
 - The Town recognizes the importance of a dual or looped water supply system for pressure, service and fire supply and will continue to loop the system when opportunities and funding permits.
3. Water supply and the adopted Water Supply Plan
 - The Town will periodically review water use to ensure an adequate supply of potable water in the future.
 - The Town shall periodically update the Water Supply Plan as required by the State.
 - The Town shall periodically update the Water Supply Master Plan addressing issues such as distribution, storage and water pressure.
4. Water usage
 - The Town shall monitor water usage by the residential community and business community and consider adjustment in the fees and rates when warranted.
5. Fresh Pond and Nags Head Woods
 - The Town shall continue to promote and monitor studies regarding the drawdown effects that water production at Fresh Pond may have on the fresh water ponds, wetlands and the entire ecosystem of Nags Head Woods.
6. US Park Service water line
 - The Town shall work with the National Park Service and the affected entities to seek funds for improvement to the water supply line serving Park Service property and the Oregon Inlet Fishing Center.
7. Water conservation
 - The Town will seek to develop an educational program highlighting the beneficial affects of conserving potable water.

Chapter 14.

Economic Development

- Introduction

As a seasonal resort community Nags Head's concerns for economic development differ from those more traditional concerns of attracting new industry and providing employment opportunities found in other localities. For Nags Head, the question is how to best manage development needed to accommodate not only the increasing seasonal population but also providing services and adequate levels of facilities and services for residents. All of this must be balanced to protect those qualities which brought residents and visitors here in the first place. In the 1996 Land Use Plan Survey, respondents were asked what they liked best and least about Nags Head. This was an open-ended question and the respondents were free to answer as they wished. The number one choice (311 respondents out of 1326 responses) was the ocean, beach, and sound. What they liked least (280 respondents out of 1,085 responses) was traffic. Traffic and the impacts on neighboring property from some form of commercial activity is very much a concern in Nags Head because of the mixture of land uses. This situation is especially obvious in the C-2 General Commercial District where commercial uses can be side by side with residential uses. The existing Land Use maps indicate the types of development that can be found in the various districts within the Town.

To help guide the Town with the challenge of growth and development the following is from the Town's adopted Vision Statement.

The Town of Nags Head is working to build a community populated by diverse groups whose common bond is a love of the Outer Banks. We recognize that the Town must be a good place to live before it can be a good place to visit. We recognize that those who have lived on this land before us have forged our path and that we must learn from them and respect their memory. We recognize that our natural environment is an integral part of our community and must be considered in all decisions. We recognize that in order to secure this future we must work together, treating all with respect and providing all with justice, keeping our common goals in front of us and our petty differences behind us.

The Town of Nags Head is working to build a community with an economy based on family vacation tourism. The base of that economy is the rental of single-family homes. Important elements in developing and maintaining this economy are

- *An oceanfront beach that is accessible and usable, not blocked by large structures.*
- *A natural environment typified by clean waters and the natural landscape of sand dunes and salt tolerant vegetation.*
- *Commercial services provided by locally owned and operated businesses that share in the building of our community.*
- *Recreational amenities and attractions, both commercial and non-commercial that are wholesome and appeal to broad spectrum of family members*
- **Tourism and Visitation**

Tourism is the major industry on the Outer Banks. In a study made by the North Carolina Division of Travel and Tourism and the Outer Banks Chamber of Commerce (1990) it was estimated that over six million (6,628,881) people visited the Outer Banks in 1989. While there is no exact measurement of visitors, the Outer Banks Chambers of Commerce annually updates these projections and estimates for 1995 indicate there were 7 million visitors to the area. In 1996, gross retail sales for Dare County were \$690,412,821 and gross receipts from occupancy and prepared meals were \$136,382,454 and \$98,718,133. The direct contribution to the area's economy from travel and tourism for 1995 was 349.8 million, resulting in 7,750 jobs with a payroll of 80 million dollars (Outer Banks Chamber of Commerce).

Table 14.1. Travel and visitor indicators		
Year	Aycock Brown Welcome Center	Jockey's Ridge State Park
1986	166,650	329,026
1987	161,614	350,040
1988	180,434	419,239
1989	166,085	459,780
1990	185,226	522,396
1991	175,597	656,208
1992	196,414	743,819
1993	179,591	792,055
1994	190,526	826,410
1995	197,323	768,945
1996	198,535	801,889

While the Outer Banks Chamber of Commerce estimated that there were 7 million visitors in 1996 to the Outer Banks, this says little about the growth in visitation that we have seen in Nags Head over the years. Table 14-1 and Figure 14-1 the increases in visitors since 1986. With the exception of some minor decreases in visitation at the Aycock Brown Welcome Center in Kitty Hawk in 1993 and 1994, and at Jockey's Ridge visitor center in 1995, there has been a steady increase in visitation to the area.

- **Construction and Real Estate/Financial Industries**

Next to the tourist industry, the construction and real estate/financial industries contribute greatly to the economic well-being of the Town and the County. In 1996, according to the Outer Banks Chamber of Commerce, 6.2 percent of the employees in the County were in the construction field. The real estate/financial industry accounted for 8.9 percent of employed individuals in the County.

In 1996, the value of new construction county-wide by building permit was \$89,292,386, with a land transfer value of \$2,471,229. For Nags Head the value of new construction by building permit for 1996 was \$13,629,700.

- **Occupancy Tax**

Occupancy tax is collected by Dare County from all establishments that rent accommodations. This tax is collected on rental rooms, lodging, or similar accommodation subject to sales tax. Distribution is prorated to the amount of ad valorem taxes levied by each town for the proceeding year. As Table 14-2 and Figure 14-2 points out, occupancy tax revenues have increased every year with the exception of two dips in 1991-92 and 1992-93 and overall occupancy revenue has increases by 98 percent since 1986.

Table 14.2. Occupancy Tax	
Year	Dollar Amount
1986-87	423,770
1987-88	496,724
1988-89	547,503
1989-90	608,557
1990-91	659,040
1991-92	649,980
1992-93	641,859
1993-94	734,079
1994-95	804,605
1995-96	839,521

- Accommodations

The importance of the tourist industry to the local economy can not be overstated. To accommodate the numerous visitors several types of accommodations have been developed on the oceanfront and nearby areas east of NC 12 and NC 1243. For ease of comparison, the Town has been divided into five areas: one from Eighth Street to Loggerhead beach access, The Village at Nags Head, the CR District in the middle of the Village, the area South of Forrest Street to the southern terminus of the CR District, and the last area which begins where the CR District ends and extends south to the southern Town boundary. (Table 14-3.)

	Residential lots	Hotel/motel units	Cottage court units	Multi-family units
Eighth Street to Loggerhead Beach Access	245	487	37	15
The Village at Nags Head	104	0	0	36
CR out-parcel in The Village at Nags Head	5	0	0	57
South of Forrest Street to end of CR between Holden and Huron Streets	39	279	99	138
South of CR boundary line to the southern Town limits (R2 zoning)	577	0	156	32
Total	970	766	292	278

There is little available land area on the oceanfront to build new hotels and motels. Both uses are allowed by the Town's Zoning Ordinance. The last hotel built on the oceanfront was Nags Head Inn which was constructed in the mid 1980's. On the west side of NC 12 within The Village at Nags Head a 90-room hotel has been approved, but not constructed as of January 1998.

Cottage courts, which can be characterized as multiple single-family and duplex dwelling units located on a single lot were once a popular form of accommodation for visitors. Throughout the years numerous cottage courts have been demolished and single-family and duplex structures built in their place. In an attempt to assist cottage court owners the Town has adopted zoning regulations which will aid in their repair and replacement thus preserving some of the earlier character of Nags Head.

- **Single-family Residences**

Single-family development is the predominant form of oceanfront development in the Town. To meet this continuing need for oceanfront single-family accommodations, numerous cottage courts, small motels, and commercial structures have been demolished and single-family residences constructed in their place. To further meet the needs of visitors, the size of oceanfront residential homes over the years has increased; today many of the homes built have five to seven bedrooms and have been advertised to accommodate over twenty people.

- **Summary**

The Town of Nags Head has more than 11 miles of oceanfront shoreline and within these 11 miles there are 970 single-family and duplex structures, 766 hotel/motel rental units, 292 cottage court rental units, and 278 multifamily dwelling units. The density on the oceanfront is approximately 3 units per acre as compared to the overall Town average of 0.85 units per acre (Chapter 15). In total, there are at least 2,126 dwelling units on the oceanfront which represents 42 percent of the dwelling units within the Town. The total tax value for all property (including miscellaneous structures) east of NC 12 and NC 1243 is \$307,872,129. This represents approximately 16 percent of the land area in Nags Head and 40 percent of the tax value in Nags Head. The occupancy tax contribution directly to the Town from the rental of accommodations is now approaching \$900,000 a year.

- **Existing Commercial Development**

Most of the existing retail and service commercial development is located along or just off South Croatan Highway. The majority of the businesses in the town are small in nature and serve primarily residents and visitors to Nags Head. One major exception would be the Tanger Outlet Stores. The Outlet Stores are 84,000 square feet in area and serve as a regional shopping hub. The Outer Banks Mall, while larger (136,800 square feet) does not appear to have the regional draw of the Tanger Outlet Stores.

In recent years the Town has witnessed a number of commercial establishments locating in the Town. Table 5.2 depicts the various types of development, and their square footage which has occurred from 1990 through 1996. Commercial growth, however, is not without its costs. It creates traffic congestion, aesthetic and visual clutter, crime, and may create serious conflicts with surrounding residential uses, e.g., traffic and noise at late hours

Large buildings and shopping centers, while contributing to the local economy, also have an impact on Town infrastructure and service. The most common impacts are increased traffic and traffic accidents, fire and police assistance, accumulation and collection of solid wastes, consumption of water and

potential impacts on the environment. Environmental impacts can include an increase in stormwater runoff, excessive noise, and glaring lights. Most of these concerns are minimized with the smaller, local businesses.

- **Impacts on Abutting Properties**

Nags Head is confronting directly the question of commercial growth. What should be allowed, and at what pace? What types of commercial expansions are desirable? Should residential zoning districts be rezoned to allow commercial uses to locate in new areas of Town? Some insights on this last question can be provided from the results of the 1996 Land Use Plan Survey. When asked about those factors that are important in preserving the family beach atmosphere, 94 percent of the respondents felt low building heights were important, 97 percent felt that open space was important, 90 percent felt that single-family housing was important, and 83 percent felt that preserving old historic structures was an important factor in maintaining the family beach atmosphere. Amusements were important to 37 percent, and 26 percent felt that commercial development was important in preserving Nags Head as a family beach.

- **Commercial Residential**

Imbedded in the tradition of Nags Head is the combination of commercial and residential uses. Many of the early merchants lived above or behind their commercial establishments. Several commercial properties continue this feature of the community's character. An area called Gallery Row (the C-4 District) is attempting to revive the idea of combined uses. Artists have constructed galleries and studios in combination with their residences. The Town set aside this area by designating a new zoning district and adopting regulations that encourage a village-type setting of residential and commercial properties. The District is composed of 14 lots, of which all but four are developed. The residential/commercial development is an integral part of Nags Head's history and represents a part of the Town's character.

- **Commercial Fishing**

While commercial fishing within Nags Head and our Extraterritorial Jurisdiction (ETJ) waters does not represent a significant industry in Nags Head, efforts should be made to ensure that opportunities remain for the commercial fishing activity to continue. For the last two hundred years, commercial fishing has been part of the culture of the area. There is one crab meat processing plant at the foot of the Washington Baum Bridge.

- **Financing Development**

In 1983, the Town established an impact fee for water. This impact fee provides supplemental funds for expansion of the Nags Head water distribution system and the Town's share of wholesale water supply expansion costs. For new development and subdivisions, the developer is responsible for extending and providing water lines and roads to and within the site.

In 1989 the Town enacted facility fees so that new development could assist in paying for increased requirements for town services necessitated by proposed development. These fees have provided improvements in the fire, police, administration, and solid waste collection departments, and made possible the initiation of capital improvement projects.

These fees have helped offset the cost of the new Town Hall by \$200,000, and provided \$158,000 in funding for Fire Department capital improvements and \$25,000 for solid waste projects. The Town has also established a Capital Improvements Program (CIP) which addresses long-term capital needs.

- **Emerging Issues**

Public Beach

To maintain the thriving tourist industry in Nags Head, the Town must find ways to continue to encourage growth and redevelopment in ways that not only encourage the expansion of the tourist industry, but also preserve those qualities which made Nags Head attractive in the first place. One major challenge for the Town and the region is the need to protect and restore the public beach as erosion continues to take its toll. For without the public beach we would not have this important industry for the Town.

Shoulder Seasons

What participation should the Town have in promoting the shoulder season?

Diversification

The Town's primary and almost singular economy is based upon tourism. Should the Town consider other economies for future survival should the tourism economy falter.

Goal. The goal of the Town of Nags Head is to develop and maintain an economy based on family vacation tourism. It is also the goal of the Town to permit those uses which provide residents and visitors with adequate services and amenities necessary for the Town to maintain relative self sufficiency.

1. Tourism

- The Town recognizes that the natural environment is our single greatest and most important tourist attraction. The Town recognizes

that protection of that natural resource supports its economic development.

- The Town shall support those activities and programs which foster and enhance the Town's family beach atmosphere and family vacation tourism image.
 - The Town will support programs, activities and zoning and Town Code amendments that support the family beach image.
2. Adequate levels of services and facilities
 - The Town will maintain its relative self-sufficiency by providing adequate services and amenities for residents and visitors.
 - The Town shall provide municipal services in a flexible, cost effective, customer friendly manner.
 - The Town will use seasonal peak use and demand as a basis for determining needed facilities.
 3. Emphasis on single-family
 - It shall be a policy of the Town to encourage an economy that is based on the rental of single-family homes for visitors and tourists.
 4. Large oceanfront rental cottages
 - The Town realizes that high occupancy vacation rentals and seasonal rentals, and particularly, the rental of large oceanfront homes, while promoting the single-family tourist rental economy, can significantly impact Town resources and infrastructure. The Town shall comprehensively review impacts that these large structures have on the resources, municipal services, and neighboring properties and amend zoning and Town regulation accordingly.
 5. Existing commercial development
 - The Town will be cognizant that future zoning actions may create nonconforming situations with existing businesses and shall attempt to minimize those changes when possible.
 6. Impacts on abutting properties
 - The Town shall recognize and shall take appropriate actions to mitigate the affects commercial enterprises' such as light, noise, and visual clutter may have on adjacent residential uses.
 7. Commercial fishing
 - The Town recognizes that commercial fishing by local fisherman from our ocean beaches and near shore waters and sounds represents a traditional occupation and part of the history of the Outer Banks.

However the Town also recognizes that conflicts can develop from time to time among various users of the ocean beaches and sounds. The Town shall take measures to assure that the beaches and sounds are accessible and useable and that user conflicts, when they do occur, are resolved quickly.

8. Financing development—private
 - Private development shall be responsible for funding and installing infrastructure needed by the proposed development.
9. Financing development—public
 - The Town will continue to review and modify fees as needed, including the addition of new facilities fees to pay for new and continued development of Town infrastructure.
10. Public beach
 - The Town will actively oppose any action to restrict public access to and across the ocean beach.
11. Shoulder season
 - The Town supports the growth of the tourism industry in and around Nags Head to the extent that the attractions supporting that industry remain the natural and cultural resources of the area. The Town does not support the expansion of the tourism economy by the introduction of attractions not based in the heritage of the area. Examples would include gaming: Atlantic City and South Carolina tour boat gambling, theme park attractions: the Orlando area. Concentrations of single theme attractions: Branson Missouri.
12. Diversification
 - The primary industry in Nags Head is the tourist industry. To augment this industry the Town shall investigate other forms of compatible enterprises and industries such as research and educational enterprises in an attempt to lessen our primary reliance upon the tourist industry.
 - The Town will not permit energy production facilities to be located in Nags Head.
 - The Town does not wish to become a regional industrial services area and will not increase the size Commercial Services District C-3 or create additional industrial parks or subdivisions.

13. Regional commercial center

- Nags Head does not wish to become a regional commercial center and will control accordingly the type, amount and location of commercial uses. For instance, commercial activities generally oriented to residents and visitors of Nags Head are desirable but the Town does not wish to develop as a commercial district designed to serve a regional market.

Chapter 15.

Housing

- **Introduction**

As the Town continues to grow, conflicts may arise concerning the compatibility of different housing types and potential conflicts with various non-residential uses. The C-2 General Commercial District is the largest district that allows both commercial and residential uses side-by-side. While the C-2 District is 68 percent developed, we can expect to see more friction arise between incompatible uses when in-fill development occurs.

- **Housing Density**

The overall density (units per acre) of dwelling units, including single-family, duplex, cottage courts, and hotel/motel is 0.85 units per acre. At build-out, there could be a potential for a total of 6,914 dwelling units which would result in overall density 1.6 dwelling units per acre. If government-owned land (Nags Head Woods, 302 acres; TNC-Nags Head Woods, 386; acres and Jockey's Ridge, 417 acres) is excluded from the density calculations, current density would be 1.6 and at build-out the density would be 2.17 units per acre. The density at The Village at Nags Head, based upon the current approvals, (36 multi-family, 100 hotel units and approximately 714 single-family-duplex) would be 2.28 dwelling units per acre.

- **Mixture of Housing Types**

Results from the 1990 and 1996 land use plan surveys indicate that residents and property owners in Nags Head adamantly support the continuation of the Town as a low-density residential community. In the 1996 Land Use Questionnaire respondents were asked what factors they felt were important in preserving the family beach atmosphere. Ninety-four percent felt it was important to encourage low building heights and densities, and 91 percent felt it was important to encourage single-family housing. In addition, 97 percent felt that preserving open space was important in preserving the Nags Head family beach atmosphere.

- **Impacts on Adjacent Properties**

In addressing high density, multi-family development, and its impact on neighboring properties, the Town in the late 1980's developed a comprehensive multi-family development ordinance as well as a comprehensive hotel/motel ordinance. These ordinances require extensive buffering, a fire lane around buildings and limitations on impervious coverage and density. Coupled with the Town's requirements that all multi-stories, multi-family buildings be constructed primarily of non-combustible materials, multi-family development within the Town provides an enhanced level of fire safety.

In 1994, the Town established a new zoning district, the Commercial-Outdoor Recreational Uses Overlay District. The purpose of this overlay district is to provide comprehensive land use regulations for the operation of commercial-outdoor recreational uses while protecting the residentially zoned areas of the town. All commercial-outdoor recreational uses proposed within this overlay district shall be subject to the procedures, standards, and guidelines specified in the ordinance. Typical regulations include buffer yards, setbacks, noise, drainage, etc.

One of the challenges for the Town over the next ten years will be to balance the needs of residential development and commercial development, especially in the C-2 District and to avoid or mitigate conflicts before they arise. Over the last ten years the Town has aggressively addressed and adopted numerous conditions for conditional uses which help lessen the adverse impact commercial or non-residential projects may have on neighboring residential properties.

As the Town approaches build-out, undeveloped land, especially in residential districts, will become more attractive for commercial development. While there is anticipated to be enough commercial land available for development for the next fourteen years, the Town must guard against the intrusion of commercial uses into residential districts.

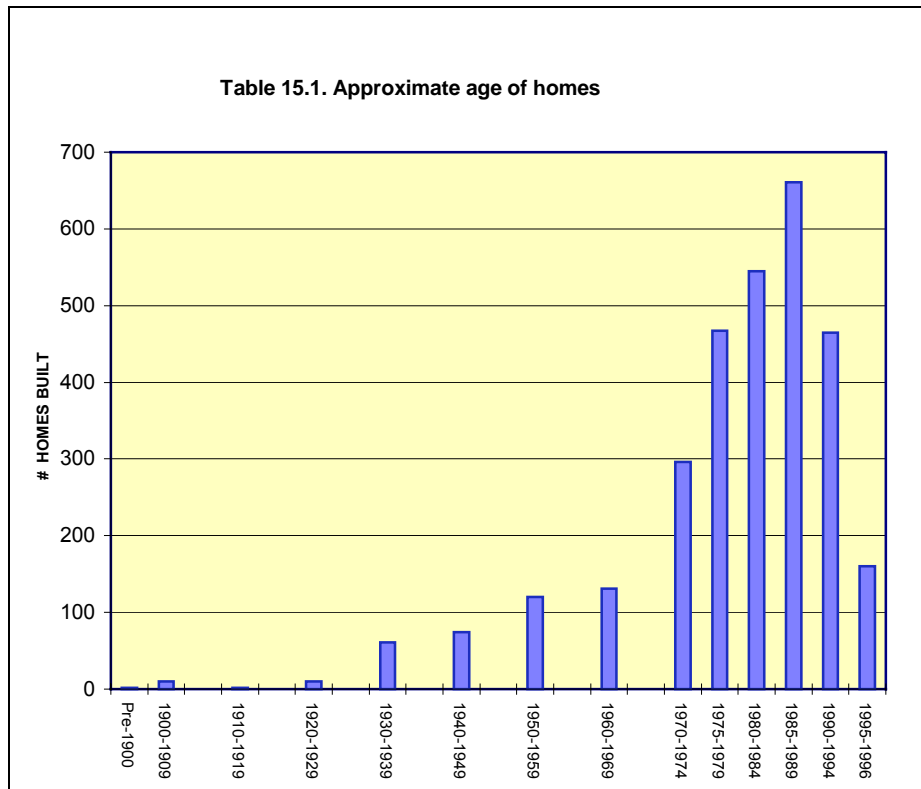
In addition to the conflicts created by commercial development described above, the larger oceanfront single-family houses also can have an impact on neighboring properties. Today's large rental oceanfront houses, many with outdoor pools, often accommodate several families, take on a commercial nature, with advertised occupancies into the twenties. With this many occupants, parking, garbage, and noise can become a problem especially during the summer.

- **Size, Quality, and Age of Structures**

Over the last twenty to thirty years the Town has seen a transition from the "beach box" or "salt box" type of house to the more elaborate multi-story houses of today. The beach box style of house, while adequate thirty years ago,

does not meet the needs of many of today's tourists and residents. Today's house is larger, averaging approximately 2,500 square feet in area and often containing five or more bedrooms. In comparison, in 1986 the average house size was 1,400 square feet with 3.3 bedrooms. Today its not uncommon to see houses pushing 5,000 square feet in area, with a pool and numerous other amenities, especially on the oceanfront.

As of January 1, 1997, there were 5,080 dwelling units in Nags Head (Table 5.1). Of these, 3,129 are represented by single-family and duplex units. Table 15.1 indicates the approximate age of the houses in Nags Head. Of particular importance here is that the houses that were constructed after 1972 had to meet some minimum standards for coastal construction. It was not until 1986 that the more stringent building codes, especially for structures built in coastal communities, came into effect. The dates used in Table 15.1 reflect the approximate year built according to Dare County tax records and does not necessarily imply that structures built before the newer construction codes are unsafe. Some of the earlier builders frequently used stronger construction methods than the code required. As chapter 16 points out we have a number of historic structures which pre-date most building codes and are still standing today. Building codes are constantly being revised to better address storm and hurricane conditions.



The quality of construction and inspection is especially important in coastal communities where the forces of wind, floods and rain can be threatening to the integrity of buildings. The Town, through our participation in the Community Rating System program and the ISO Building Code Effectiveness Grading Program (BCEGS), is addressing the concerns for quality construction and inspection. The BCEGS program establishes special criteria for grading how well a community enforces its building code requirements. The grading is based on resources a municipality applies to building code enforcement, with special emphasis on reducing losses from natural hazards. While the Town can not require construction methods beyond what the Building Code requires, we can offer suggestions for stronger building construction standards and we can vigorously enforce the provisions of the Building Code. In an effort to further address the special concerns for coastal development, the Town currently has a moratorium in effect which prohibits in many instances the construction of multi-story, multi-family, wood-frame construction.

As mentioned in the introduction, one of the challenges the Town will face in the future is to ensure that as the older housing stock is renovated and improved, and as marginal land becomes developed, that the resulting development will fit into the “Nags Head” image.

Goal. The goal of the Town of Nags Head is to continue to grow primarily as a low density, single-family residential community, while also accommodating a mix of other housing types. It is the goal of the Town of Nags Head to require the construction and maintenance of high quality housing. It is the goal of the Town of Nags Head to minimize conflicts between residential uses and other uses both within and between zoning districts, protecting the residential nature of the Town.

1. Compatibility and mixture of housing types
 - While single-family homes are the primary form of accommodation, the Town shall seek to encourage a wide range of compatible accommodations and housing densities for our residents, workers, and visitors.
2. Housing density
 - The Town shall not increase the allowed densities of dwelling units in the Town.
 - The Town shall not reduce the minimum lot size in any zoning district.
3. Single-family
 - The primary form of accommodation for both residents and visitors shall be the single-family home. The Town does not wish to become a community of high density, high rise hotels and condominiums.
4. Impacts on abutting properties (noise, litter etc.)
 - The Town shall consider measures to reduce the impacts caused by high occupancy rentals and seasonal rentals, and particularly, the rental of large single-family homes on neighboring property and municipal services.
5. Buffering
 - The Town will consider developing additional buffering regulations where commercial uses/zones abut residential uses/zones.
6. Historic District
 - The Historic “district” is an irreplaceable resource for Nags Head and the Town shall carefully review any land use request or amendment for compatibility with the “district” and the “Nags Head Image”.

7. Size, age, quality, and the Nags Head image

- As the existing housing stock ages, the Town shall consider incentives and regulations to help ensure that the replacement housing stock is in keeping with the “Nags Head image”.
- The Town shall not increase and shall consider reducing the amount of land zoned commercial.

8. Affordable housing

- The Town recognizes affordable housing as an important issue and supports a regional approach in attempting to resolve the affordable housing dilemma.

Chapter 16.

Visual and Aesthetic Resources

- **Introduction**

Traditionally, the Town of Nags Head has been considered a family beach, a vacation spot where families can come and enjoy themselves without worrying about traffic, congestion and noise. People have come to Nags Head for years in order to get away from such problems of city life. A primary reason people are attracted to Nags Head is the aesthetic and visual quality of the environment, including its beaches and open space, and the relative low density of its development. Many of these aesthetic and visual resources are changing and will continue to change as population and growth pressure increases. As more development occurs, and as filling of vacant areas progresses, the visual spaciousness of the Town will decline. The increase in commercial development, along with the signs, lights, noise, and other features which accompany such uses, may also lead to deterioration of the aesthetic qualities of the Town.

- **Open Space**

The results from the 1990 and 1996 land use plan surveys illustrate the importance of open space. Respondents' first and foremost desire, and they were willing to pay for, preservation or acquisition of open space-68 percent in 1990 and 66 percent in 1996. They want to maintain open spaces along the ocean, the sound and in forested and vegetated areas.

Typical areas of public open space include Jockey's Ridge State Park, Nags Head Woods, along rights-of-ways and the public portion of the ocean beaches. In addition, a large portion of land in Nags Head Woods is owned by the Town, the Nature Conservancy, or both and is protected from development and will remain as open space. See chapter 18, Nags Head Woods for a detailed description of the Town-owned property in Nags Head Woods.

- **Historic District**

The design and architecture of structures built in the Town also influence the aesthetics of the Town and should be viewed as visual and cultural resource to be guarded. As construction and development in the Town continue there is no assurance that architectural styles and the built environment in general will be

pleasing to the eye. A particularly important question is whether future development and growth will jeopardize existing historic and architecturally significant structures in the Town. More specifically, a sizable group of historic beach cottages exists in the Town, built shortly after access from the mainland became available. This area extends approximately 0.9 mile, lying north of the Town Hall, and includes some 60 houses. Many of these houses are on the National Register of Historic Places. Most of the homes are still in the ownership of the original families. The houses are of an easily identifiable architectural style with wood siding, two stories on the main frame and quarters extending like an “L” to South Virginia Dare Trail (NC 12).

Historic and architecturally significant buildings can be adversely affected, both directly and indirectly, by a large number of activities. All construction projects have the potential to require the demolition of important, though simple, structures on a site as well as to alter the use of nearby land thereby causing secondary impacts to a building of historic or architectural importance. Most of these historic structures are in the R-1 Zoning District and east of South Virginia Dare Trail (NC 12). On the west side of South Virginia Dare Trail (NC 12) is the Town’s C-2 General Commercial District. Zoning would permit a service station to be built opposite one of these historic homes. In addition, destruction of the old structures and new construction is frequently unnecessary as existing buildings can be renovated for adaptive reuses; often these are uses quite different from the use intended at the time of a building’s construction. Rehabilitation is more energy conservative and job intensive than new construction, and recycles elements of the coastal historic character into everyday use.

During the summer of 1997, the Nags Head Board of Commissioners requested that staff survey the owners of historic properties to determine if there was interest in the historic district community for the Town to develop measures for the preservation of these historic structures. The Town will not take any affirmative actions to preserve these historic structures until they receive support from the affected property owners. The outcome of that survey did not result in any clear course of action supported by a majority of the owners of these historic structures.

Town-wide, considerable, though far from unanimous, support for the establishment of a historic district in this area was expressed in the 1984 Land Use Plan Survey. In the 1990 survey, when asked if a citizens’ task force should look into the merits of historic preservation, 81 percent of the respondents agreed with this statement. In the 1996 survey, 83 percent of the respondents felt that old historic structures is important in preserving the Nags Head Family Beach Atmosphere.

In 1998, the Town amended its Zoning Ordinance to encourage houses on the National Register with maids’ quarters greater flexibility in preserving and

improving these structures. With this change, these maids' quarters are now considered conforming uses and can be improved and repaired.

- **Architectural Review**

Many of the newer subdivisions in Nags Head have established architectural review committee to review, comment and approve the aesthetic appearance on the buildings when they are proposed. The Village at Nags Head is the largest development in the Town which requires review and approval by an architectural review board. Architectural review boards or committees address and enforce aesthetic elements and concerns. Some communities have established appearance boards which help encourage architectural and aesthetic compatibility.

- **Cultural Resources**

The North Carolina Division of Archives and History has identified several archaeological sites and archaeologically sensitive areas in Nags Head. Most of these sites occur along the sound shoreline and some are within Jockey's Ridge State Park. Most of these areas are included in the "Conservation" land use classification.

- **Beautification**

In an attempt to address beautification concerns along US 158, the Town in 1991-92 developed a landscaping corridor plan designed to improve the visual image along US 158. The plan recommends specific actions for consideration by the Town to improve the visual image along the major roadways in Town. As a follow-up to that plan the Town applied for and received several grants to install vegetation at selected sites along US 158. In 1993, the Town developed and distributed a brochure, *Nags Head Naturally*, designed and written to encourage property owners and developers to recognize the benefits of preserving existing natural vegetation.

- **Natural Topography and Vegetation**

A major part of the attraction of Nags Head is due to the Town's predominance of open space, natural topography, and natural vegetation. The Town has adopted numerous regulations which are designed to preserve dunes, topography, and vegetation. In two zoning districts—SPD-20 and SED-80—numerous regulations require the preservation of topographic features and trees. In addition, the Town regulates the removal of the Town's official tree, the live oak under certain development conditions.

- **Citizen's Advisory Committee**

The Nags Head Board of Commissioners has appointed a Citizens Advisory Committee (CAC) to act as a liaison between the elected board and the citizens. The CAC has the following charge: (a) Provide a mechanism for exchanging information and ideas from the citizens to the Town government and from the Town government to the citizens; (b) Identify, analyze, develop, and propose options for solving concerns and problems; (c) Advise and aid the Board of Commissioners in its ability to provide the most effective services to citizens and visitors to the Town; and (d) Make informed and specific recommendations to the Board of Commissioners, e.g., major items in the Town budget, long range plans, land use matters. Currently, this committee is working on ways to preserve the "Nags Head" image, through voluntary incentives, community appearance, and architectural review concerns.

Goal. The goal of the Town of Nags Head is to retain our natural environment, typified by open space, salt tolerant vegetation, sand dunes, and maritime forests, as well as our rich architectural heritage.

1. Open space preservation

- Open space and green space are important elements in the Nags Head image. The Town will inventory open space and develop and implement a plan to acquire and preserve open space throughout the Town.
- The Town shall actively pursue grants and funding opportunities such as PARTF for the acquisition of open space and green space.

2. Jockey's Ridge State Park

- The Town recognizes that Jockeys Ridge State Park is a valuable asset to the Town and region and will work with State Parks on mutually agreeable programs and projects.

3. Nags Head Woods

- Nags Head Woods represents a valuable and irreplaceable natural resource and environment. The Town shall prohibit any use which is detrimental to the natural ecosystems in the Woods.

4. Public beaches

- The Town shall take measures to ensure that the ocean beach is accessible and useable. The Town shall take a proactive role in policing and cleaning the beach both routinely and after storm events.

5. Commercialization and franchising of the beach
 - The Town shall not permit nor allow any commercialization of the ocean beaches or waters nor allow any commercial activities to occur on the public beach.
6. Overhead utility lines
 - It shall be the policy of the Town to work with any regional effort to place existing overhead utility lines underground
7. Historic District
 - The historic district represents an irreplaceable part of the Nags Head image and past. The Town shall carefully consider any proposed land use change-not only within the district, but near by that would diminish the uniqueness of the homes in the district.
 - The Town will promote the creation of a historic district to preserve the historic beach front cottages but will not establish such a district until a majority of the affected property owners support it.
 - It shall be a policy of the Town not to burn historic structures and to encourage the preservation of historic buildings to help maintain community character.
8. Architectural review
 - The Town shall continue to work with the citizens and the Citizens Advisory Committee on initiatives designed to help preserve the architectural heritage and appearance of Nags Head.
9. Archaeological sites/sensitive areas
 - The Town views the preservation of archaeological sites as an important part of our history and will not participate in the destruction of any significant archaeological site.
10. Preservation of vegetation
 - The Town values the preservation of existing vegetation and trees and shall vigorously enforce all existing applicable regulations and laws.
11. Community appearance
 - The Town shall continue to address community appearance concerns through the existing boards (Planning Board, Citizens Advisory Committee and Board of Commissioners). The Town shall work toward developing incentives designed to enhance, promote and protect the Town's architectural image and heritage.

- The Town will consider the creation of an Appearance Commission and or a Corridor Commission to promote the general appearance of the Town.

12. Preservation of dunes and topography

- The Town views the preservation of dunes and topography as an important component in the Nags Head image and shall strictly enforce the existing applicable rules and regulations and seek additional measures as needed to preserve as much of the natural topography as possible.

13. Damage oceanfront structures

- The Town recognizes that damaged homes and structures on the oceanfront represent a nuisance, eyesore and visual blight and the Town shall take appropriate measures to abate this nuisance.

Chapter 17.

Recreation and Open Space

- **Open Space and Shoreline Access**

The availability of recreational resources is a primary reason that Nags Head is an attractive place in which to live and vacation. As population and development increases, recreational opportunities must keep pace. Clearly a key recreational resource is open space. It is important for visual and aesthetic reasons such as those discussed in the previous chapter (Chapter 16. Visual and Aesthetic Resources). Here we are concerned with open space which can be used for more active recreational purposes.

Obviously in a barrier island community such as Nags Head, recreation and open space are intimately tied to beach and shoreline access and use. Even though considerable amounts of wet-beach areas may exist for public use, such areas will not satisfy future recreational needs if additional space and sufficient public access points are not provided. As growth and development occur the capacity and adequacy of the public beach and existing access points will likely decline.

- **Ocean Access**

In an attempt to determine how many people are on the ocean beach, the Town's Ocean Rescue personnel estimated the number of beach goers at one time in the day during the months of June, July, and August. During the month of June 1997, there were approximately 74,368 people on the beach (including Regional Accesses) during the count. In July there were 291,110 and August the count was 239,970. From Labor day through October 15, there were 28,453 people on the beach during the count north of Jennette's Pier, and 23,546 people south of the Pier. Counts are also made at stationary lifeguard stations at the Town's regional bathhouses/accesses at Bonnett Street, Epstein Street, and at Hargrove Street. The counts are shown in Table 17-1.

Table 17.1. User counts at the regional bathhouses

	Jun-97	Jul-97	Aug-97	Total	Daily Avg
Bonnett Street	3,325	8,945	6,527	18,797	209
Epstein Street	3,252	6,780	6,725	16,757	186
Hargrove Street	1,894	4,255	3,270	9,419	105

The Town currently has 28 ocean access areas, of which, three are regional bathhouses. Regional bathhouses have larger parking areas, restrooms, showers, and usually lifeguards during the season. These are listed in table 17.2

In the 1996 Land Use Plan Survey, citizens were asked several questions about our current mix of ocean access opportunities. Sixty-two percent felt that we did not need any more large ocean access sites, 55 percent felt we needed more small ocean access sites and 56 percent felt that the Town had the right mix of large and small accesses. Table 17.2 lists the current access site and recreational amenities proved by the Town.

- **Estuarine Access**

Since 1990, the Town has added several soundside recreational amenities, namely, the Nags Head Causeway Estuarine Access and Interpretive Center site and the pier and restrooms at the Little Bridge site. The Little Bridge site was designed to help meet the needs of tourists and sport fisherman that use either the catwalks on the Little Bridge or the area alongside Muddy Channel. The Town maintains two other estuarine access sites, one Town owned facility at Danube Street, and another one on the soundside area of Jockey's Ridge State Park which the Town has a management agreement with North Carolina State Parks to operate.

In the 1996 Land Use Plan Survey, respondents were asked to rank six possible amenities for soundside areas. Swimming and wading ranked first, nature parks and trail were second, followed by (in order) fishing and crabbing opportunities, non-motorized boat access, motorized boat access, and lastly, public windsurfing areas. When asked if they would be willing to pay higher taxes, only 47 percent of the respondents would be willing to pay higher taxes or fees for either ocean beach access areas or soundside access areas. As more and more people use the Sound and ocean for various uses, conflicts may arise. One area of concern which has drawn much attention over the last few years has been that of the use of personal watercraft (PWCs). For a review of the PWC concerns, please see Chapters 7 and 8, the "Beach and Sound Plans" and Chapter 22, Special Development Issues

Aside from the increased use of personal watercraft in the Sound, the Town has also seen a vast increase in other estuarine recreational uses and opportunities. Along with the rental of PWCs, there has also been an increase in the numbers

of rentals and use of other types of boats and wind driven sail boards. While there are occasional conflicts with these other recreational uses in the Sound, the demand and intensification of certain activities will necessitate the need for a more comprehensive approach by the Town for dealing with the various types of developing and expanding recreational uses. As an example, conflicts between users may arise when PWCs, motor boats, sail boats, windsurfers or kayaks users are operating in the same general area in the Sound at the same time. (See also Chapters 7, 8, and Chapter 22.)

Table 17.2. Recreational facilities summary

Name	# Parking Spaces	Category *	Light	Cross Walk	Sand Path	Restrooms
Ocean Access Sites						
Eighth Street	20	N	Y	Y		
Albatross Street	8	N		Y		
Abalone Street	21	N	Y	Y	Y	
Barnes Street	17	N	Y	Y		
Blackman Street	17	N	Y	Y	Y	
Bonnett Street	71	R	Y	Y	Y	Y
Bittern Street	17	N	Y	Y		
Bladen Street	11	N	Y	Y	Y	
Bainbridge Street	16	N	Y	Y		
Hollowell Street	14	N	Y			
Conch Street	20	N	Y	Y	Y	
Small Street	0	L		Y	Y	
Dowitcher Street	14	N				
Enterprise Street	14	N	Y	Y	Y	
Loggerhead Beach Access	23	N	Y	Y		
Municipal Complex	15	N	Y	Y		
Epstein Beach Access	46	R	Y	Y	Y	Y
Forrest Street	18	N	Y	Y	Y	
Glidden Street	14	N	Y	Y	Y	
Gull Street	12	N	Y	Y	Y	
Gray Eagle Street	24	N				
Gulfstream Street	22	N	Y	Y	Y	
Governor Street	18	N	Y			
Huron Street	25	N	Y	Y		
Holden Street	21	N	Y	Y		
Hargrove Street	48	N	Y	Y	Y	Y
James Street	0	L	Y	Y	Y	
Juncus Street	20	N	Y	Y	Y	
Estuarine Access Sites						
Jockey's Ridge State Park	24	N	Y	Y		Y
Danube Street	15	N	Y	Y	Y	
Nags Head Causeway	20	R	Y	Y		Y
Estuarine Site						
Little Bridge	39			Y	Y	Y

Other Recreational Sites	Parking Spaces	Restrooms
Nags Head Woods Family Area and estuarine trail head	25	Y
<ul style="list-style-type: none"> • Handicapped accessibility, covered pavilion, playground, grassy field, basketball goal 		
Nags Head Woods (670-acre maritime forest)/The Nature Conservancy		
<ul style="list-style-type: none"> • Access through The Nature Conservancy (TNC) on Ocean Acres Drive in Kill Devil Hills • Various trails through Town and TNC property 		
South Nags Head Multi-use Pedestrian Path		
<ul style="list-style-type: none"> • 4.75-mile, concrete multi-use path from Whalebone Junction to the southern Town limits. 		
* L-Local; N-Neighborhood; R-Regional		

• Conventional Recreational Amenities

Nags Head Woods Family Area. In 1994, the Town completed The Nags Head Woods Family area. This three-acre parcel is located off Health Center Drive and adjacent to Nags Head Woods. This family area contains a picnic pavilion with restroom facilities, a 25-car parking lot, a grassy field, and a tot lot along with playground equipment for older children. The site also serves as a trailhead for a trail leading through Nags Head Woods to the Sound.

Jockey's Ridge State Park is a great recreational amenity in Nags Head. It provides a vast amount of open space and rigorous terrain for hikers. Currently, the State owns 417 acres in and around Jockey's ridge. The soundside portion of the park contains an access site with 24 parking spaces. The access was constructed by the Town in 1991–1992 to help meet the demands for estuarine access. The access site is operated and maintained by the Town and represents an excellent opportunity for the public to visit the Sound.

The main park facility is accessible only off South Croatan Highway (US 158) and consists of a parking area, various buildings, park headquarters and a visitors' center. In 1997, a 7,000 square foot building expansion was completed and contains a concession building, a new visitors' center and expanded parking. The visitors' center contains the park ranger's office, a 75-seat auditorium, and a 1,200-square-foot exhibit area. Total parking on the site is 261 spaces.

Multi-Use Path. The Town places a high value on pedestrian and bicycle opportunities. In 1995, to accommodate the needs of pedestrians and bicyclists, the Town used funding from NCDOT and the Dare County Tourist Bureau to completed a 4.75 mile multi-use path extending from Whalebone Junction to the southern limits of the Town.

- **Attitudes Toward Traditional Recreational Facilities**

The need for other more traditional recreational facilities will expand as the Town continues to grow. From the 1989 draft Comprehensive Ocean and Estuarine Access and Recreation Plan the following recreational improvements were selected as important if the Town were to build a Town Park: jogging and walking trails, natural areas, picnic tables and shelters, bike trails and tot lots/playgrounds.

For the 1990 Land Use Plan Survey, respondents were asked to rank six possible recreational activities in terms of importance. Nature park was first, swimming/wading was second, and, fishing/crabbing third, followed by non-motorized boat access, windsurfing and lastly motor boat access. In 1996, when a similar question was asked, swimming/wading was first, nature park and trails second, fishing/crabbing opportunities third, followed by non-motorized boat access, motorized boat access and, finally, public windsurfing areas.

- **Recreational Planning**

Bicycle and pedestrian. To comprehensively plan for bicycle and pedestrian opportunities, in 1997, the Town developed a Nags Head Pedestrian Transportation Plan. In the 1996 Land Use Plan Survey, 74 percent of the respondents were willing to pay higher taxes or fees for bikeways and multi-use pedestrian ways. Respondents from the 1996 Land Use Plan Survey were also asked about the need for bikeways and sidewalks. Opinion was somewhat consistent on this issue, with 74 percent indicating a need for bikeways and sidewalks and 64 percent willing to pay higher taxes to finance such improvements.

Recreation Committee. In 1997 the Town established a Recreation Committee to comprehensively address recreation needs throughout Town. The committee utilized the results from the mail survey and as input from citizens to work toward the development of both short term and long range plans to address recreational needs within the Town. A part of this planning process is the development of a master plan for the Town that must meet planning criteria necessary for participation in the North Carolina Parks and Recreation Trust fund grant process. This committee reviews and recommends future recreation improvements for the Town. The committee also works with staff to identify additional recreational funding opportunities as they arise and apply for grants when needs have been identified.

In early 1998, with input from the Recreation Committee and Citizens at a public meeting, the Town decided that the uses for a recreational site should include an indoor facility with a pool, an outdoor skateboard park/facility, and a jogging trail. These three items were included in the Town's delayed development plan as part of an application to the NC Parks and Recreation Authority (PARTF). In the spring of 1998, the Town was awarded a \$250,000

grant for the acquisition of a 10-acre tract (the TWEACR tract) to be used for these approved activities.

Goal. The goal of The Town of Nags Head is to encourage the recreational use of our shorelines in ways compatible with adjoining land uses. It is also a goal of the Town to provide a variety of opportunities for non-water based passive and active recreation.

1. Access-general
 - The Town of Nags Head will provide an adequate mix of ocean and estuarine access sites to meet the needs of residents and summer tourists. Access development shall be met through pedestrian access ways, and neighborhood and regional beach access sites.
2. Ocean access, neighborhood
 - The preferred types of ocean access shall be pedestrian and neighborhood accesses.
3. Ocean access, regional
 - The Town shall consider additional regional access sites when a demand has been demonstrated.
4. Estuarine access
 - As recreational uses in the sound become more popular the Town will actively consider the development of new sites designed to accommodate a wide range of users.
5. Personal watercraft (PWC)
 - The Town will not provide estuarine access for PWC's. The Town shall not increase and shall consider reducing the number of commercially rented PWC's and PWC businesses.
 - The Town will not permit the rental of PWC's for use in the Atlantic Ocean.
 - The Town supports new PWC technology that improves emissions and maintains estuarine water quality.
 - The Town shall develop educational measures to inform operators of PWC's of the laws and regulations concerning the safe operation of these watercraft.
6. Nags Head Woods
 - The Town shall actively work with the Nature Conservancy to increase the recreational and educational utilization of the Town and Conservancy owned portions of the woods.

7. Multi-use path

- The Town shall actively pursue development and funding opportunities for extension of the multi-use pedestrian path.
- The Town shall prioritize the implementation of the Nags Head Pedestrian Transportation System Plan” adopted on November 6, 1996.

8. Traditional recreational amenities

- The Town shall actively plan and seek funds for the development of traditional recreation uses as the needs are identified.
- The Town shall consider acquiring and developing small neighborhood recreation areas as funds become available.

9. Recreational planning and Recreation Committee

- To adequately plan for the recreational needs of the Town, the Town has established a Recreation Committee. The Recreation Committee shall recommend recreational needs and develop recreational plans as requested by the Board of Commissioners.

10. Funding recreational improvements

- The Town shall track and shall apply for grants including North Carolina Parks and Recreation Trust Fund (PARTF) and other funding opportunities as needed.

11. Dare County Master Recreation Plan

- The Town shall work with the County in the development of a Countywide Master Recreation Plan.

12. Recreation sites and Town Park

- The Town shall actively pursue development and funding for identified recreational facilities.

13. Jockey’s Ridge State Park

- The Town supports the current mix of recreational uses at Jockey’s Ridge State Park. The Town supports additional educational and low intensity activities like nature trails and kite flying uses of the Park. The Town will oppose the expansion of high intensity activities.

Chapter 18.

Nags Head Woods

Features of Natural Area

The Nags Head Woods is an irreplaceable maritime forest occupying the northwest portion of Nags Head and is located in the SED 80 zoning district. The Woods includes the Fresh Pond (water supply), large stable marshlands, large vegetated and unvegetated sand dunes, and a forest with ponds and wetlands. The Woods was the home of the first settlers. Its ecological significance has been amply documented in terms of rare species and natural communities. The Woods is one of a few remaining maritime forests in North Carolina and consists of ecologically important marshlands, pine hummocks, bay forest, the ridge, hardwood and pine forests, ponds and dunes. Each part of the system is important to the whole, although the least adverse environmental impacts would result from development in the bay and hardwood forests away from the ponds and ridges. The Woods is also environmentally significant because of its natural role in the integrity of the coastal region.

To protect the Fresh Pond as a source of potable water, the Town in the 1960's acquired 318 acres of land area primarily west of the pond. Conditions of the acquisition were that the area remain as a watershed and that the area would not be subject to development, thus protecting the water quality in the Pond.

To further protect the woods, in 1987 the Town revised its Zoning Ordinance and adopted a comprehensive set of zoning regulations for the protection of Nags Head Woods. These ordinances permit primarily single-family housing and include regulations to ensure that the function and character of the maritime forest will be preserved.

In 1992, the Town, in cooperation with The Nature Conservancy (TNC), purchased 386 acres in Nags Head Woods. This tract was commonly referred to as the RTC tract, the Great Atlantic Savings Tract or the Tillett Tract. The property was acquired by the Town and The Nature Conservancy to be managed as a natural area and nature preserve. When the property was acquired, the federal government designated the tract as part of the Coastal Barrier Resources Act, and in doing so, federal flood insurance will not be available for any development which may occur in this tract. In 1997, the Town offered Articles of Dedication to the State of North Carolina for most Town

owned property in Nags Head Woods. The offer was accepted, and this area is now dedicated in perpetuity as a nature preserve.

The SED 80 District is 972 acres in area. Of this acreage, 303 acres are owned by the Town, 386 jointly owned jointly by the Town and TNC, and 27.5 acres is owned by TNC, thus approximately 73 percent of the land in Nags Head Woods (SED-80) is owned by the Town and TNC. Most of the land owned by the Town and the hiking trails are managed through a cooperative agreement with the Nature Conservancy

The existing land uses in the Woods are limited to nine residences and one former farm site. The remainder is in its natural state. The current management system to protect environmentally sensitive features, the water supply, and visitors from natural hazards. The marshes may fall under protection by the Coastal Resources Commission through an AEC permit and/or by the Corps of Engineers permitting process. Town zoning and land use regulations are designed to prevent the filling of wetlands in certain areas. Development near the Fresh Pond which forms the public water source is also limited by the Zoning Ordinance and AEC regulations which restrict septic systems to one per acre within 1,200 feet of the edge of the Pond and prohibits their use within 500 feet of the edge of the Pond.

- **Future Development**

Due to the remoteness of the area, the fact that any new subdivision of land would require the construction of a paved road from an existing street in Nags Head and the fact that town water would need to be brought in, any future subdivision of the land into 80,000 square foot lots is unlikely. However, there are two parcels which could meet the State subdivision exemption for lots greater than 10 acres. This State exemption would result in a net increase of three lots. In total there are 28 lots which meet the town's current standards (for land area or conforming lot of record status) for single-family houses. Currently there are nine single-family dwellings in SED-80. Access is either provided by private agreement through an access driveway near the Villas Condominiums or by the only public road—Nags Head Woods Road from Kill Devil Hills.

Nags Head Woods represents a significant, limited and irreplaceable area where management is needed to protect the natural, cultural, recreational and scenic features. The presence of the Woods in Nags Head makes the region a desirable place in which to live, work and visit.

Goal. The goal of Nags Head is to protect the natural integrity of Nags Head Woods as a unique and important natural area and to promote Nags Head Woods as an area for environmental education.

1. Irreplaceable maritime forest
 - The Town recognizes that the Nags Head Woods maritime forest is an irreplaceable resource and will diligently enforce existing Town regulations to protect the resource.
 - The Town will carefully consider any proposed zoning change to determine what, if any, negative impacts would result from such a proposed change.
2. The Nature Conservancy
 - The Town values its partnership with The Nature Conservancy and will continue to work cooperatively in developing a management plan for Nags Head Woods.
 - The Town will bear its fair share of the costs of operating Nags Head Woods Preserve including necessary research to develop strategies to ensure the long term survival of Nags Head Woods.
3. Area of Environmental Concern (AEC) designation
 - The Town shall pursue the designation of Nags Head Woods as an Area of Environmental Concern (AEC).
4. Articles of Dedication
 - The Town will complete the work needed to dedicate the appropriate Town owned areas to the State of North Carolina as a nature preserve.
5. Old Nags Head Woods Road
 - The Town shall work with the Nature Conservancy in the development of environmentally sensitive standards for the use, protection and maintenance of Old Nags Head Woods Road.
6. Water
 - The Town shall continue to promote and monitor studies regarding the drawdown effects if any, that water production at Fresh Pond may have on the fresh water ponds, wetlands and the entire ecosystem of Nags Head Woods.
7. Hunting
 - The Town shall not allow the discharge of firearms within the Town. The Town shall work with the Nature Conservancy and the North Carolina Wildlife Commission when appropriate in establishing hunting rules for the management of deer populations in Nags Head Woods.

8. Environmental education

- The Town supports the Nags Head Woods educational program and will make Town resources available to support the program.

Chapter 19.

Fire and Police Protection

- **Introduction**

As the Town of Nags Head grows, the need for additional fire and police protection will increase. Heightened development patterns, such as larger rental cottages with occupancies into the thirties and large commercial structures, have created new and different fire and police protection needs. These larger houses, coupled with the increase in visitors to Nags Head, have resulted in an increase in the number of emergencies responded to by the Fire and Police Departments. As visitation continues to grow Countywide we can expect to see increased traffic on US 158 and NC 12 as well as increased traffic accidents within the Town.

- **Fire Prevention**

The Fire Department recognizes the need for the town's commercial structures to meet or exceed the current Town and State of North Carolina Fire Code Standards. To address this need, the Fire Department has implemented a proactive fire prevention, fire mitigation and fire inspection program to ensure that commercial structures meet or exceed these current fire code standards. This program is designed to reduce the number of actual structure fire emergencies. The Town continues to evaluate the program's effectiveness and will make changes when necessary to increase efficiency in providing fire prevention, mitigation and emergency response fire and ocean rescue services. In addition to the career staff, the Fire Department is assisted by numerous volunteer forces

- **Ocean Rescue**

The Fire Department Ocean Rescue Division provides ocean rescue services throughout the Town. The Town also contracts lifeguard services to the Towns of Southern Shores and the National Park Service. The Ocean Rescue Division provides water rescue service from April through October. During the summer, Nags Head beaches are patrolled by lifeguards on all terrain vehicles as well as at fixed stands at some of the more heavily used access sites. As the Town and County continues to grow, the beaches will subsequently become more

crowded and the need for additional lifeguards and the methods of providing this service will need to be addressed.

- **Police Protection**

The need for police protection in the Town can also be expected to increase as the Town and County continue to grow. Currently the Police Department is a small one, usually with no more than two or three patrol officers on duty at any one time. According to the Police Department, commercial areas tend to generate higher levels of crime than residential areas. Consequently, the expansion of commercial uses indicates that the Town could expect an increased need for police services in these areas. The increase in the number of residents and visitors in the Town, along with the increasing amount of development may require the Town to expand the level of police personnel and resources in the future.

The Police Division is divided into three areas: Patrol, Criminal Investigations, and Animal Control. The Police Division operates as a professional, full service law enforcement agency that has adopted the goals of Community Policing and Community Oriented Government as its way of providing police services to the citizens and visitors to Nags Head. In an effort to both prevent and reduce crime, the Police Division has established effective partnerships with the business and the professional community and the residential community through the Community Watch Association Program.

- **Animal Control**

The Animal Control Division is responsible for the operation of animal control and protection programs as well as enforcing the leash law in the Town. The animal control officer routinely patrols the neighborhoods as well as the ocean beaches. The Animal Control Division will also be working with the US Fish and Wildlife Service in extending their turtle protection, monitoring and recognition program.

- **Off-road driving**

The rules regarding off-road driving and driving on the ocean beaches are enforced by the Town's Police Department. The Town allows, by permit, the driving of four-wheel drive vehicles on the ocean beaches from October 1 through April 30. During the summer, only the police, emergency vehicles, and commercial fishermen (with permits) are allowed to drive on the beach. The Town also prohibits driving on ocean dunes at all times. In addition, the Town prohibits the off-road driving of motor vehicles and all-terrain vehicles within the Town.

- **Growth and Zoning Issues**

An important concern generated by our coastal environment is the effect that actual development or design has on fire and police safety. Given the Town's particular coastal weather conditions (i.e. strong winds) and the fact that certain types of development, such as oceanfront hotels and motels present a formidable task in fire protection, additional fire protection measures may be needed. For example, fighting a hotel structure fire on the oceanfront from the sand beach represents challenges to the fire fighting capabilities of the Town. To address some of these concerns the Town has adopted zoning regulations which would require that a paved access be provided around hotel, motel and multifamily development throughout the town. The materials used in construction, the design and layout of structures, e.g., sprinkler systems, all impact the level of protection in the Town, and the need for expanded fire service staffing and equipment. Similar observations apply to police protection. Residential and commercial developments can be planned and designed to achieve various levels of security and personal protection. For instance, adequate lighting and the orienting of structures can provide better visibility and security. As with fire protection, projects can also be designed to facilitate conventional police protection, such as enhancing the ability of the police to move from one neighborhood to the next, and requiring landscaping which does not obstruct the view of police patrol officers.

- **Funding Fire and Police Capital Improvements**

To help meet the capital needs resulting from growth for both the Fire and Police Departments, the Town instituted facility fees in 1989. These fees are now required for new development to pay a proportional share of projected, new capital needs. Both departments also plan for additional needs through the Capital Improvements Program. To satisfy the future fire and police protection needs created by growth the Town annually addresses capital improvement projects plans through the Capital Improvements Program (CIP) as well as periodically reviewing facility fees, as well as other sources of funding.

[Note: Department of Public Safety -By action of the Board of Commissioners a Department of Public Safety was created and established in and for the Town of Nags Head effective July 1, 1998. The Department of Public Safety now consists of the Police Division and the Fire and Rescue Division.]

Goal. The goal of the Town of Nags Head is to protect its citizens and visitors from the perils of fire and crime, and to ensure safe oceanfront beaches by providing a well equipped and prepared Department of Public Safety through sound land use planning practices and community involvement

- It is the policy of the Town to continually assess the police, fire and rescue needs of the Town and to make personnel and resources expenditures commensurate with the needs created by development and the changing nature of the social environment.
- The Town will consider the impact on public safety during the review of site plans and during considerations for proposed changes to the zoning ordinance.
- The Town encourages the use of sprinkler systems, stand pipes and the provision of fire lanes as important fire prevention measures
- The Town will seek community involvement and cooperation in the provision of Police and Fire services through the Volunteer Fire Department, the Community Watch program, and proactive community outreach in all divisions of the Public Safety Dept.
- The Ocean Rescue and Police divisions will work to ensure the ocean beach is a safe environment for family vacation tourism.

Chapter 20.

Solid Waste

Solid Waste Collection

The Town maintains its own collection system to pick up residential and commercial garbage within Town. After the Town trucks pick up the garbage, it is then deposited at a central transfer point on Roanoke Island. From there the Albemarle Regional Waste Authority transports the garbage and disposes of it in a landfill in Bertie County on the mainland. Several years ago the Town, in cooperation with the other towns in the County, established contracts with Dare County for waste disposal. The County has contracted with the Albemarle Regional Waste Authority for the disposal of solid waste.

The Town currently uses two systems for collection, an automated system, and a manual system. The automated system utilizes one truck which serves approximately 1340 homes. The manual collect utilizes two trucks and collects from 1,695 homes. The town currently uses four trucks for commercial pickup. See Table 20.1. In early 1999, the Town will phase out the manual system and replace it entirely with an automated system.

Table 20.1. Trash collection			
Combined Residential and Commercial tons and bulk tons			
	Tons	Bulk Tons	Recycled
1991	5640.20	175.20	304.84
1992	4852.48	150.24	299.56
1993	5796.78	104.81	302.75
1994	6992.56	138.12	306.95
1995	6315.52	89.10	421.04
1996	6843.67	102.38	422.21

Bulk tons represent roadside pickups of bulk items.

Solid Waste Management Plan

The Solid Waste Management Act of 1989 set a goal to reduce 25 percent of solid waste being deposited in landfill sites no later than January 1, 1993.

Preferred State methods of waste reduction, in order of preference, are: waste reduction at the source, recycling and reusing, composting, incineration with energy production, incineration, and landfills. Another portion of this legislation requires local governments to initiate recycling programs by July 1, 1991. The act also will prohibit yard trash (January 1993) from being deposited in landfills.

In 1996, the North Carolina General Assembly passed HB 859 *Solid Waste Amendments*. This legislation replaced the original bill which placed a mandatory waste reduction requirement on all units of local government. The major provisions of this bill that apply to Nags Head are: (1) The Town must assess its solid waste collection services and disposal capacity; (2) The Town must develop a 10-year comprehensive solid waste management plan with a waste reduction goal for 2006 (This plan must be updated every three years with the implementation beginning July 1, 1997; and (3) We must establish a solid waste reduction program. Nags Head joined with other municipalities and Dare County in asking the Albemarle Regional Solid Waste Authority to prepare the report for all of the participants on waste reduction. The report was completed and adopted by the Board of Commissioners in June 1997. Another requirement of the bill is that the Town must provide for one advertised meeting to solicit public participation on waste reduction.

Recycling

One major method of reducing waste is recycling. Our present recycling program, which is completely voluntary, began in 1991 with the purchase of one recycle trailer and the introduction of a commercial pick-up for glass, paper, and cardboard. In 1992, the Town added a second trailer, and in 1994, a third was purchased so that we now have three permanent “drop-off” sites and five sites around Town for use one day per week. The commercial program collects from 46 businesses during the summer season. The percentage of recycled material compared to the total waste amount was five percent in 1991, rose to nine percent in 1993, and five percent for calendar year 1996, for an average of 6.3 percent. During 1996, the commercial program accounted for 40 percent of all recycled material and the remaining 60 percent came from all other sources such as drop-offs and beach access sites. The total recycle collection/disposal for 1996 was 422.2 tons.

As part of the 1996 Solid Waste Amendments and Solid Waste Management Plan, the Town has set a waste reduction goal that can be realized at the end of the next ten-year period. Two possible ways of significantly reducing solid waste are through an enhanced commercial program or a curbside residential recycling program. The existing commercial program could approximately double the amount collected with the addition of another truck, one full-time employee, and a temporary employee. Assuming the commercial amount collected yearly doubled, this program could reduce solid waste by about five

percent. In the event the Town were to establish a curbside residential program, the costs would be from \$291,858 to \$348,916, depending on whether it was performed in-house or contracted out, and could generate approximately 857 tons per year assuming 11 pounds per house, per week year round. This would reduce the Town's solid waste by approximately 12 percent. Given the high cost of these programs, the uncertainty of the recycle market, and the inability of Dare County to handle a larger volume of recyclables, the Town has set the goal at a modest rate of seven percent for the next three-year period. As the Solid Waste Management Plan must be updated every three years, the goal can be changed in the future if new programs are initiated.

In the 1996 Land Use Plan Survey, 70 percent of the Town residents reported that they would recycle at one of the Town recycling centers. In response to various recycling programs, 63 percent would support a mandatory recycling program, and 79 percent of the respondents would support a curbside recycling program and 61 percent would pay higher taxes for a curbside program.

Goal. The goal of the Town of Nags Head is to provide for the most effective and economical collection and disposal or recycling of commercial and residential solid waste.

1. Solid waste collection
 - The Town shall provide the most effective and economical methods for the collection, disposal, and recycling of solid waste.
2. Residential
 - The Town shall continue to investigate economical cost reduction measures, including frequency of collection for the collection of residential solid waste.
3. Commercial
 - The Town shall continue to investigate effective and economical measures for the collection of commercial waste.
4. Recycle: residential
 - The Town views residential recycling as important, however at this time the cost associated with street side or door to door recycling is excessive.
5. Recycle: commercial
 - The Town will continue to provide, within reasonable, economical means, the onsite collection of commercial recyclable material.
 - The Town will continue to provide the onsite collection of commercial recyclable material when the volumes collected provide substantial environmental benefit.

6. Private streets

- The Town shall work towards the utilization of dumpsters on private streets where conditions warrant.

7. Solid Waste Management Act

- The Town supports the provisions in the Solid Waste Management Act.

Chapter 21.

Public Participation and Intergovernmental Coordination

Need for Public Participation and Coordination

Crucial to any democratic process of land and water use planning is continuous public participation. As the community grows, the traditional one-to-one channel of communication is often made difficult. At the same time growth and change in the community further increase the need for such public involvement in several ways. First, the number and magnitude of the land and water use and community problems in a high growth situation make citizen input and involvement all the more important. Thus the problems confronted are more difficult and more in need of the direction citizen participation can provide. Second, citizen involvement is more important in a dynamic community because there is less certainty about the fundamental desires and attitudes of the residents.

Difficulties Encountered

An effective citizen participation program in Nags Head is hampered by several factors. Because Nags Head is a highly seasonal community, practical difficulties exist in assessing the attitudes and desires of non-resident property owners. In an attempt to determine residency status, the 1996 survey asked a question on residency. Twenty-four percent of the respondents were residents of Nags Head while 51 percent were non-resident property owners. Twenty percent were part-time residents and five percent were "other." In total, 24 percent of the respondents indicated they were residents and 76 percent indicated they were non-residents. Thus the ratio of non-resident to resident is 3:1. Moreover, even if the difficulties of contacting these individuals are overcome with the use of surveys and questionnaires, useful participation on an ongoing basis is quite difficult. Many of these individuals are indifferent to planning issues that may not appear to have implications for them in the short-term. The challenge to the Town of Nags Head is to maintain an ongoing citizens' participation program which recognizes and overcomes, to the extent possible, these unique limitations. The Town's Citizens Advisory Committee represents a wide cross-section of citizens which meets on a bi-monthly basis, and has successfully overcome many of these difficulties.

Currently, the Town encourages public participation and awareness in government activities through questionnaires, newsletters and public meetings. The public is notified well in advance of the times and agenda of the Planning Board and Board of Commissioners meeting and the public is encouraged to attend. A list of meeting dates and workshops held for the development of this plan appears at the end of the plan following Chapter 25.

In a continuing attempt to keep citizens informed, the town now requires that for Board of Adjustment cases, that all abutting property owners and owners of property across the street from the property affected by the variance application be notified in writing of the proposed hearing by the Town.

An additional issue included within this chapter is that of intergovernmental cooperation. It is clear that in each of the preceding issue areas, Nags Head is not a unilateral actor. For many of the goals it wishes to advance, the Town will have to cooperate with other municipalities and Dare County, as well as other governmental bodies. For instance, to achieve adequate preparation for hurricane evacuation it is necessary for all the towns, the County, state, and federal agencies to work together to implement the “decision arc” concept. Nags Head recognizes that its growth and future destiny are closely tied to the interests and decisions of other governmental units.

Goal. The goal of the Town of Nags Head is to keep the public informed of its policies, actions, and deliberations, and to provide the public access to information available about the Town.

It is also a goal of the Town of Nags Head to provide an opportunity for citizens to be involved in the decision making process

1. Citizen participation

- Nags Head recognizes that its policies and actions have impacts outside its borders. It is the goal of Nags Head to work with local, state, and federal governments to develop and implement complementary policies and programs that enhance the goals of the Town of Nags Head.
- The Town will assess the effectiveness of its communication efforts with non resident property owners and work to provide access to information in a more timely and complete manner than is currently allowed using the news letter format.
- The Town recognizes the utility of the Internet in providing access to Town information and will develop a program to provide Town information over the Internet.

- The Town shall utilize numerous media sources including, but not limited to, newsletters, brochures, electronic media and public meetings to inform the public and encourage their participation in governmental activities.
2. Citizen Advisory Committee
 - The Citizens Advisory Committee provides a valuable link between the public and the Board of Commissioners and the Town shall continue to support the participation of the Committee.
 3. Intergovernmental cooperation
 - The Town shall work with the County and other municipalities on interests of mutual concern.
 - The Town shall consider other local governmental plans and policies concerning growth (and shall make a copy of this Plan available to them for comment).

Chapter 22.

Special Development Issues

Special Development Issue 1—Adult Entertainment

One of the most challenging and emotional issues the Town has addressed over the last few years is sexually oriented business (SOBs). Sexually oriented business can be in the form of adult book stores, adult “x” rated movie theaters, topless adult live entertainment establishments, as well as a host of more subtle forms of adult entertainment such as adult media centers, adult motels and numerous business which are often covers for adult entertainment activities such as adult escort agencies. In December 1994, the Town placed a moratorium on accepting site plans or allowing SOBs and adult entertainment businesses in Nags Head until such time that the Town can adopt regulations to control this activity.

Regulating these types of activities and businesses can be challenging given the fact that many of these activities may be protected by the First Amendment of the US Constitution. For those activities which are allowed by the Constitution the Town has limited powers to regulate. One of the most common ways for a municipality or county to regulate or control SOBs is to establish a zoning district or amend an existing district to allow the uses and adopt rules and regulations along with licensing requirements.

To gauge public opinion on this subject, the Town included five questions in the 1996 Land Use Plan Survey which addressed adult entertainment. Overwhelmingly, 91 percent of the respondents felt that adult establishments would adversely affect property values and 80 percent felt that an adult entertainment would negatively influence their decision to buy a vacation home or live in Nags Head. Only eight percent felt that adult entertainment business would enhance the vacation/resort attraction of Nags Head to vacationing families.

Special Development Policy

The Town shall continue to explore additional means of regulation and shall seek legislation, if needed, which will enable the Town to regulate adult entertainment and sexually oriented business.

Note: In 1998 extensive regulations were adopted by the Town regulating sexually oriented businesses. Certain sexually oriented businesses may be allowed as conditional uses in the C-3 Commercial Services District. Also in 1998 the Town adopted licensing requirements for sexually oriented businesses. While regulations have been adopted, the Town shall continue to monitor and revise existing regulations as needed to address new concerns as they arise.

Special Development issue 2—Personal Watercraft

Regulation of Commercially Rented Personal Watercraft

Over the last ten years the popularity of watersports and boating and especially personal watercraft (jet skis) has increased drastically. Ten years ago the town had only two personal watercraft operators (Korbach's and one in Caribbean Corners). Today we have six operators (eight sites) with the potential to rent up to 229 watercraft. Personal watercraft can only be rented from businesses within the Commercial Overlay District which is part of the C-2 General Commercial Services District. The Overlay District encompasses the area along the sound and extends south from Forbes Street, around both sides of the Causeway, and up to the "Little Bridge." Within this district the rental of PWCs is a conditional use and the number of boats available for rent is limited by the number of approved parking spaces.

As the popularity of many watersports, and especially PWCs has increased, so has the safety concerns along with the number of reported accidents and injuries. Over the last few years there have been several fatalities on the Outer Banks. As the number of PWCs increases, so do the potential conflicts with other types of boaters (wind and motor), fishermen, swimmers, and waders as well as collisions with piers and docks.

As part of the Land Use Plan update, a Citizens Questionnaire on Growth and Development was forwarded to all resident and non-resident property owners. The results indicate that 93.5 percent of all respondents believe that the Town has enough or more than enough personal watercraft. When questioned whether they supported additional regulation of the use of *privately* owned personal watercraft in the ocean, 64.7 percent of the respondents replied affirmatively. When asked the same question with regard to the use of privately owned personal water craft in the Sound, 69.6 percent responded affirmatively.

Over 65 percent of all respondents supported additional regulations of commercially owned or rented PWCs in the Sound. A notable 78.6 percent of all respondents expressed their opinions that these regulations should be coordinated between the local town government and the county government.

Note: In 1999, extensive regulations were adopted which limited the number of PWCs that could be commercially rented and limiting the number of commercial rental sites to seven. These regulations followed the completion of a comprehensive study entitled ‘Recreational Water Use Carrying Capacity Study’.

The Town will continue to monitor both the commercial rental of various types of watercraft and the recreational use of watercraft and seek additional regulations when conditions warrant.

Special Development Issue 3—Comprehensive Plan

As the town continues to grow, and as local, state, and federal regulations become more complex, it becomes essential that the Town carefully plan for the future and to survive and flourish as a resort community. A well-prepared comprehensive plan could ensure that when new growth or redevelopment occurs, it is not haphazard, unsightly, and wasteful. The outcome of new growth should not result in sharply rising municipal service costs and property tax increases. A comprehensive plan will help maintain a positive “quality of life” in the Town and as redevelopment and new development occur, those qualities which originally attracted visitors and residents won’t be lost.

By developing and adopting a comprehensive plan, the Town will begin to realize that the economy, housing, unique environment, and the historic characteristics of the Town are closely related to problems such as traffic congestion, flooding, water availability, and other factors. A comprehensive plan will coordinate land use decisions, which if allowed indiscriminately, may adversely affect many aspects of the economy, population, education, housing, streets, water distribution, and other facilities.

Common components in a comprehensive plan are:

1. Community profile, geography, and history
2. Population
3. Economic base
4. Housing
5. Land use
6. Community resources and public facilities
7. Natural environment and community restoration
8. Transportation
9. Basic town services, such as police, fire, solid waste collection
10. Capital Improvements Program

11. Others

Comprehensive plans need not be expensive to produce as much of the required background material exists in current document (Land and Water Use Plan, CIP Plan, etc.)

Special Development Issue 4-Community Appearance

The Town of Nags Head has a long standing history and reputation of being a family oriented beach resort community with tourism being the principle economic base of the Town. To complement this family beach environment and to continue our attractive image the Town places great value on our natural resources, open space, and visual image of the built environment. In recent years there has been a progressive change in the visual image of commercial buildings in the Town from buildings constructed primarily of wood to buildings utilizing metal and glass exteriors. As stated in the 1990 Land Use Plan, "The design and architecture of structures built in the Town will also influence the aesthetics of the Town and should be viewed as a visual resource to be guarded. As construction and development in the Town continues there is no assurance that architectural styles and the built environment in general will be pleasing to the eye. A particularly important question is whether future development and growth will jeopardize existing historic and architecturally significant structures in the Town." For some time now the Town's Citizens Advisory Committee and the Town's Planning Board have been addressing these concerns and have been investigating measures and incentives the Town can take to protect our visual resources.

The Town of Nags Head is working to build a community with an economy based on family vacation tourism. The base of that economy is the rental of single-family homes. The Town does not wish and will not develop as other ocean resort communities which promote a high impact visual commercial "strip" appearance. Businesses in these strip developments are typified by excessive interior and exterior lighting, an over-abundance of glass and steel as well as utilizing other non-indigenous exterior sidings and or facades.

One way to encourage aesthetics and protect visual images is to establish a Historic District Commissions, Corridor Commissions, or Community Appearance Commissions. North Carolina law allows the establishment of these commissions, they would represent an additional layer of bureaucracy with additional regulations and are not popular with the citizens at this time. These commissions generally have the authority to recommend aesthetic and design standards based upon a set of design and aesthetic guidelines that have been developed by the commission with input gained from public hearings. As part of the permitting process, these commissions review development proposals and make recommendations regarding aesthetics and the visual image. For example, in Manteo and on Roanoke Island there is a Corridor

Commission which address aesthetics in the corridor alongside US 64-264. The Commission reviews signage and development proposals alongside US 64-264. This Commission was established as the direct result of specific State enabling legislation. At this point in the development of the Town, developing an incentive program to improve the visual image is more favorable than establishing an additional Commission with numerous regulations.

The ability to use zoning powers to address aesthetic and visual concerns is somewhat problematic. By statute, zoning can address such issues as health, safety, morals, or the general welfare of the community. Additional zoning powers include the ability to regulate and restrict the height, number of stories and size of buildings as well as a host of similar regulations. Historically, the use of zoning to address aesthetic issues is somewhat of a gray area. In all likelihood, zoning has limited powers to govern aesthetic concerns.

Note: See Chapter 16, Visual and Aesthetic Resources for additional information on this concern

Special Development Issue 5—Beach Nourishment (see chapter 7, the Beach Plan)

Chapter 23.

Review of Implementation of the 1990 Land Use Plan Policies

1. Protect the physical and visual integrity of the estuarine shoreline. (High Priority)

Implementing actions

- A. Actively pursue all sources of funding including the Capital Improvements Program to provide funds for open space and estuarine access projects.
- B. Develop ordinances which would encourage those types of developments which would promote the *Nags Head* image and not be detrimental to the estuarine environment.

Implementing actions adopted since 1990

- A. The Town has constructed three estuarine access sites: Jockey's Ridge State Park, the Causeway site, and Little Bridge.
 - B. Development and adoption of the Commercial Outdoor Recreational Overlay District.
2. Protect the integrity of the ocean beach and dune system and recognize the natural processes and dynamics of the shoreline. It is the Town's policy that sea walls, jetties, and groins or other artificial devices designed to stabilize the ocean shoreline shall not be permitted, but the Town shall allow the use of sand bags and sand-pushing to temporarily protect threatened structures until they can be removed from the site. (High Priority)

Implementing actions

- A. Require dune crosswalks for all new oceanfront development.
- B. Require any proposed development or redevelopment to rebuild and revegetate dunes for the purpose of creating and maintaining a continuous dune line along the oceanfront.
- C. Continue to pursue the necessary studies to determine the feasibility of a town-wide or regional beach nourishment project.
- D. Consider annually, through the Capital Improvements Program process, providing funds for the acquisition of open space in high hazard areas along the ocean shoreline.

Implementing actions adopted since 1990

- A. Continuation of support for the nourishment study being Performed by the US Army Corps of Engineers.
 - B. Funds have been put aside each year through the CIP process for land acquisition.
 - C. Built new public crossovers, e.g., June Street, and maintain existing crossovers.
3. Reduce the risks and vulnerability of structures to damage and loss from hurricanes and coastal storms in advance of such events. (Priority)

Implementing actions

- A. Identify and seek all programs and funding sources which will assist the Town in developing natural mitigation measures to reduce potential losses.
- B. Actively participate in the Federal Emergency Management Agency Community Rating System Program to develop mitigation measures to reduce or prevent flood damage from occurring in the first place.
- C. The Town will develop and implement a comprehensive Floodplain Management Plan and will annually evaluate progress toward implementing the plan.
- D. The Town shall continue to encourage relocation of structures which are threatened by erosion and the Town Staff will actively work with the homeowner and Federal Emergency Management Agency to facilitate their relocation.

Implementing actions adopted since 1990

- A. Through a planning grant from the Division of Coastal Management, the Town's Mitigation Plan is being updated with completion in fall of 1997.
 - B. A Floodplain Management Plan was developed and was included in the CRS program.
 - C. Budget for erosion abatement programs as part of the Town's annual budget.
4. Lobby the North Carolina Department of Transportation to make needed improvements to South Croatan Highway (US 158), South Virginia Dare Trail (NC 12), and US 64/264 throughout the entire region. (Low Priority)

Implementing actions

- A. The Town recognizes that evacuation planning is a regional problem and it will work with other affected jurisdictions to lobby the North Carolina Department of Transportation for improvements, not only along South Croatan Highway (US 158), South Virginia Dare Trail (NC 12), and US 64/264, but also improvements to and from the mainland to provide for maximum efficiency in hurricane evacuation of the Outer Banks.
- B. Continue to work with the North Carolina Department of Transportation in the completion of a Major Thoroughfare Plan.

Implementing actions adopted since 1990

- A. The Town has worked with NC DOT to update the Thoroughfare Plan.
 - B. The Washington Baum Bridge and the “Little Bridge” improvement projects have been completed.
5. Take appropriate actions to protect the quality of estuarine and groundwater resources recognizing the interrelationships between land use and water quality. (High Priority)

Implementing actions

- A. Require tertiary sewer treatment plants for high density or high intensity development.
- B. Continue to work toward allowing only those uses which would protect the quality of groundwater, surface water, and estuarine water from point and non-point sources of pollution.
- C. Investigate innovative measures to control/retain/detain stormwater runoff.
- D. The Town recognizes the need to develop a detailed street and comprehensive stormwater and drainage improvements plan as part of the Town’s Capital Improvements Program. Such a plan should identify and prioritize road drainage improvements designed to alleviate potential congestion and flooding while addressing and minimizing the environmental impacts of stormwater runoff. This comprehensive stormwater and drainage plan would help ensure continued environmentally-sound development and growth in the Town.

Implementing actions adopted since 1990

- A. In 1995, the Town adopted a Stormwater Management Plan and subsequent ordinances.

- B. Vigorously monitor the enforcement of the “no-fill” rules in estuarine areas.
 - C. Establish a working committee to investigate the impacts septic systems may be having on water quality.
6. Encourage a mixture of land uses that consist predominantly of single-family and duplex structures. The Town feels that commercial activities should be oriented to providing services for residents and visitors. (Low Priority)

Implementing actions

- A. The Town will consider reducing the size of the Town’s commercial zoning districts.
- B. The Town will consider reducing and/or redistributing the amount of land available for commercial development.
- C. The Town should not reduce, and shall consider increasing, the amount of land zoned residential.
- D. Develop regulations which would require existing platted, but undeveloped, subdivisions to meet current Town standards when they are developed.

Implementing actions adopted since 1990

- A. Have been and will continue to require the recombination of lots.
 - B. Have not rezoned any residential property to commercial.
7. Protect the visual, physical and aesthetic qualities of Nags Head, including open space and the historic district. (High Priority)

Implementing actions

- A. Institute a program of land acquisition to acquire land now to protect the visual integrity of the Town.
- B. Establish, if supported by the affected property owners, a historic district ordinance to preserve the historic characteristic of the Town.
- C. Develop a long-range program to place existing overhead utilities underground.
- D. Develop a visual enhancement program (landscaping, buffering, landscaped corridors) to protect and enhance the natural vegetation and topographical features of the Town.

Implementing actions adopted since 1990

- A. In 1993, a Landscape Enhancement Program was established and funding was obtained to plant trees along US 158 and in the Nags Head Woods Family Area.
 - B. The Town has purchased numerous properties including the Rigger property, the RTC property in Nags Head Woods, the fire station property, and property for recreational purposes.
 - C. Initiating property owner's interest in the establishment and development of a Historic District.
 - D. Completed a brochure, *Nags Head Naturally*, to encourage preservation of natural vegetation.
8. Increase public access and the amount of recreational open space along the ocean and estuarine shorelines and increase open space in other areas. (Priority)

Implementing actions

- A. Investigate the feasibility of implementing a facility fee schedule that will require payment of fees from new development which will be used for the acquisition of land for ocean and estuarine access areas.
- B. Continue submitting grant applications for shoreline access projects when the opportunities arise.
- C. Develop an Open Space Plan designed to identify key locations for land and easement acquisition.
- D. Identify and resolve conflicts which arise when two competing user groups use the same resource, e.g., commercial beach fishermen and recreational fishermen, jet-ski and power boat operators, waders and swimmers, surfers and swimmers, etc.

Implementing actions adopted since 1990

- A. The following access sites were completed: Hollowell Street (1990), Jockys Ridge State Park estuarine site (1992), the Nags Head Causeway Estuarine Site (1996), and the Little Bridge site due to be completed in the spring of 1997.
- B. Requested that the NC Marine Fisheries Commission establish rules for commercial fishermen in the ocean waters.
- C. Adopted a comprehensive ordinance regulating personal watercraft.
- D. Conducted meetings between recreational and commercial fishermen to resolve user conflicts.
- E. Facility fee ordinance revised and readopted.

9. Plan for municipally-owned or operated active and passive recreational areas as well as the need for a Town Park and other traditional municipally-provided recreational facilities to meet the needs of the Town's residents. (High Priority)

Implementing actions

- A. The Town will work with The Nature Conservancy to provide access to Town-owned property in Nags Head Woods.
- B. The Town will actively seek grants which would assist in the acquisition or development of municipally-owned or operated recreational areas.
- C. The Town will maintain its management agreement for Nags Head Woods with The Nature Conservancy that provides for hiking trails.
- D. The Town will consider changes to the Zoning Ordinance that increase municipally-owned or operated recreational opportunities consistent with the policies of the Town.

Implementing actions adopted since 1990

- A. The Town has continued to rely upon The Nature Conservancy for management of some of the Town's property in Nags Head Woods.
 - B. The Town has established a recreation committee to comprehensively address recreation needs in Nags Head.
 - C. Nags Head Woods Family Area was developed on a three-acre parcel adjacent to Nags Head Woods.
 - D. Cleared and established trail from the Nags Head Woods Family Area to the Roanoke Sound.
10. Protect Nags Head Woods as a critical and important natural feature of the Town. (Priority)

Implementing actions

- A. The Town will work with local, state, and national conservation and other governmental agencies and other interested private, non-profit organizations for acquisition of Nags Head Woods as the best method of preservation.
- B. Maintain Town-owned land in its predominantly undeveloped state while providing passive and limited active recreational uses for the public.
- C. Support the nomination of Nags Head Woods as an Area of Environmental Concern.

- D. Continue to enforce the laws prohibiting off-road driving of all-terrain vehicles.

Implementing actions since 1990

- A. In 1992, the Town and The Nature Conservancy jointly purchased 386 acres in Nags Head Woods.
 - B. The town has provided financial contributions to The Nature Conservancy as part of the Town's management agreement with The Nature Conservancy to manage Town-owned lands.
11. Provide basic infrastructure and services, i.e., police, fire protection, solid waste collection, and water service to meet the needs of growth. (Priority)

Implementing actions

- A. It is the policy of the Town to continually assess the police and fire protection needs of the Town and to make personnel and resource expenditures commensurate with the needs created by growth and development.
- B. The Town encourages the use of non-combustible materials for the construction of motels, multi-family and commercial projects.
- C. Consider developing regulations to require the use of sprinkler systems and stand-pipes, the provision of fire lanes and emergency vehicles accesses for high density and commercial development.
- D. Continue to development annually a detailed Capital Improvements Program indicating needed improvements, their expected sources of funding, and a schedule of these improvements for at least five years into the future.

Implementing actions adopted since 1990

- A. The Town annually prepares and adopts a Capital Improvement Plan.
 - B. Seeking special legislation to better address fire protection (sprinklers).
 - C. Acquisition of property in south Nags Head for expansion of fire service capabilities.
 - D. Reassesses fire and police needs as part of the facility fee review process.
12. Continue to provide for adequate, economical, and environmentally-sound methods for the disposal of solid waste. (High Priority)

Implementing actions

- A. The Town shall closely monitor the generation of solid waste and make necessary expenditures to increase its collection capacity commensurate with future levels of growth and development.
- B. The Town in its development review processes will encourage project designs which facilitate the collection of solid waste, e.g., clustering waste containers, and which minimize any negative effects that might result from the collection system, e.g., visual buffers for waste containers, location of container sites to minimize impact of local traffic during collection, etc.
- C. The Town shall continue to provide opportunities and facilities for recycling materials. The Town shall develop public awareness programs directed toward both residents and visitors to encourage recycling and the Town will develop appropriate incentives to meet the State mandate.
- D. The Town will continue to assist and will provide more opportunities for commercial establishments to recycle materials.
- E. The Town will continue its program of roadside litter clean-up.
- F. The Town shall investigate innovative methods for reducing the amounts of degradable and non-biodegradable solids and waste entering the landfill.

Implementing actions adopted since 1990

- A. The Town has continued its roadside litter program.
- B. The Town has initiated an *adopt-the-beach* clean up program.
- C. An automated garbage pickup system was started in February 1996 for a portion of the Town
- D. The Town has expanded the recycling program to include three permanent drop off sites and five rotating sites throughout Town and three recycling trailers.

SPECIAL DEVELOPMENT ISSUE—Preservation of Natural Vegetation and Topography.

- 13. Develop an innovative and unique set of regulations, guidelines, and development review processes which will help preserve topography, vegetation, and other characteristics which will preserve the family beach and the image of Nags Head as Nags Head. (Low Priority)

Implementing actions

- A. Develop a comprehensive Corridor Vegetation Enhancement Program.

- B. Develop a community appearance and beautification handbook.
- C. Prepare architectural design guidelines for new and rehabilitated structures.
- D. Prepare a tree planting and landscape beautification handbook.
- E. Create voluntary guidelines for attractive signage and outdoor lighting.

Implementing actions adopted since 1990

- A. In 1993, the Town developed a vegetation brochure aimed at encouraging property owners and developers to recognize the benefits of preserving natural vegetation. during the development process
- B. The Citizens' Advisory Committee continues to address issues of community appearance and preservation of the family beach atmosphere.

SPECIAL DEVELOPMENT ISSUE - Comprehensive Plan

- 14. Develop a comprehensive plan to coordinate land use decisions to ensure the Town maintains a positive quality of life while at the same time accommodating new development. (Low Priority)

Implementing actions

- A. Develop a comprehensive plan.

Implementing actions adopted since 1990

- 15. Continue to provide a strong citizen participation program for the future. The Town seeks to maintain strong citizen involvement in all levels of government and will seek participation techniques to assure that all segments of the community have a full and adequate opportunity to be informed and to participate effectively in the planning and decision-making process. (High Priority)

Implementing actions

- A. The Town will continue to solicit public comments through public opinion surveys to ensure a strong public voice in the government of Nags Head.
- B. The Town will continue to utilize the Citizens' Advisory Committee as a vital link to the governing body of Nags Head.
- C. The Town will encourage public participation in all public meetings and public hearings when such participation is not prohibited by law.
- D. The Town will continue to disseminate information to the residents and visitors by the use of newsletters, newspapers and published reports to bring the public up-to-date on government activities.

- E. Town Staff will be available to meet at any time with special-interest, civic, business groups, etc. regarding governmental activities.
- F. The Town will continue to seek input from the citizenry into the governmental process at all levels.
- G. The Town will continue to promote ways to establish working partnerships with representatives from civic groups, business groups, and special-interest groups to provide insight and input into the processes of local government.
- H. The Town Planning Staff and Building Inspectors will conduct workshops with the public regarding hurricane protection, including retrofitting of existing structures and the Community Rating System.

Implementing actions adopted since 1990

- A. The Building Inspectors, Town Manager, and the Planning and Development Director meet at least annually with area builders to resolve any problems that may develop.
 - B. In preparation for the Land Use Plan update, the Town has completed one mail survey (1996).
 - C. Through the Town's CRS program, the Town informs citizens of flood related issues and offers on-site advice on flood related issues.
 - D. With the CRS program, the Town offers annual workshops and informative sessions on storm and flood related issues.
 - E. The Town has expanded the public notification process for Board of Adjustment cases in order to inform more citizens of the variance request being made.
 - F. The Police Department has established a community watch program.
16. Continue to cooperate with other municipalities on the Dare Outer Banks, with the County, State and federal government in pursuing all the aforementioned policies. (Priority)

Implementing actions

- A. The Town will actively participate in Town and County planning forums.
- B. The Town will arrange and participate in meetings as requested.
- C. The Town will continue to work with other local governments to identify and resolve common issues.

Implementing actions adopted since 1990

- A. The Dare County Area Planners meet several times a year to discuss issues of mutual interest and concern.
- B. Town Commissioners and Town Staff participate on numerous local committees and groups.

Chapter 24.

Policies and Implementation Methods

The following are policies which represent and summarize the majority of the action policies in the previous chapters. Along with each policy are the implementation methods necessary for achieving that policy. CAMA requires that all adopted policies and implementation methods be achievable by local governments and are within the fiscal constraints and management system of local governments.

Following each policy (in parentheses) is the priority for that policy. The timing for completion of policies are based upon the priority assigned and are as follows: Highest Priority; High Priority; Priority; and Low Priority.

Some policies which were rated less than High Priority represent issues and concerns which: (1) may not demand considerable Staff time and resources; (2) are beyond the direct control of the Town; or (3) are on-going projects to which the Town is committed.

POLICIES

1. The Town recognizes beach nourishment as our preferred alternative for addressing the impacts from barrier island migration and ocean erosion. However, the Town also supports a variety of methods to abate the impacts to ocean erosion, these include, but are not limited to acquisition of threatened structures, relocation of threatened structures and the establishment of innovative technology or designs which may be considered experimental, which can be evaluated by the CRC to determine consistency with 15A NCAC 7M .0200 and the other general and specific use standards with the CAMA rules. (Highest Priority)

Implementing actions

- A. The Town will sponsor studies designed to determine the financial contribution the beach makes to the Outer Banks and the region.
- B. The Town will acquire oceanfront property when the opportunity arises.
- C. The Town will investigate mitigation programs and grants to assist the property owner in the relocation of threatened structures.

2. The Town supports beach nourishment projects for the Town beaches subject to commensurate funding appropriations from federal, state and local sources. The Town will support and encourage the establishment of a statewide beach management strategy and policy along with a dedicated funding program designed specifically for beach restoration and nourishment projects. (Highest Priority)

Implementing actions

- A. The Town will actively lobby the State for a state policy and strategy on beach nourishment and beach renourishment.
 - B. The Town will lobby the State to establish an annually state funded statewide nourishment program.
 - C. The Town will seek funding from local and regional sources to assist with the local match for federally funded beach nourishment projects.
 - D. As an alternative to relying on private dredging contractors for beach nourishment and renourishment the Town will investigate or request the investigation of the feasibility of either a local or a state funded and operated dredge.
3. The Town recognizes that the ocean beaches are our single greatest asset. Fundamental elements important to the Town include, clean beaches, ample recreational access opportunities, no commercialization, reasonable beach driving regulations and the prompt resolution of user conflicts as they arise. (Highest Priority)

Implementing actions

- A. The Town will not allow or permit any commercialization of the Town's ocean beaches.
 - B. When the opportunity arises, the Town will acquire oceanfront property for access and open space.
 - C. The Town will make a financial commitment including additional personnel and equipment if needed to keep our ocean beaches clean on debris and litter.
 - D. The Town shall seek financial assistance from the Outer Banks Visitors Bureau for funds to clean up the beach when the beach becomes impacted for example: with debris from a storm; fish kills; whale stranding, and other events which impact the attractiveness of the beach.
4. The Commercial Outdoor Recreational Use Overlay Zoning district was established to accommodate the ever-growing commercial recreational development requests made to the Town. It shall be a policy of the Town

to periodically review the adequacy of these regulations and make the necessary modifications when public health, safety and welfare issues arise. The Town shall not enlarge the Overlay district and shall consider reducing the District in size or amending the uses when conflicts develop.(Priority)

Implementing actions

- A. The Town shall consider reducing either the size of the Commercial Outdoor Recreational District, or the number of personal watercraft vendors when an existing rental operation ceases operation and is converted to another use.
 - B. The Town shall not increase the number of rental PWC units allowed to be rented at each site and shall consider reducing the number of rental PWC units and vendors (currently two) on the south side of the Causeway when the opportunity arises.
5. Mitigation represents a proactive approach to reducing the vulnerability of risk to properties in the Town. The Town will investigate innovative programs and seek funds for mitigation measures such as relocation of threatened structures and more stringent building codes for high hazard areas that support the growth management policies of the Town. (High Priority)

Implementing actions

- A. The Town shall investigate the feasibility of becoming a FEMA “Project Impact” community..
 - B. The Town shall consider the applicability of requiring “V Zone” structural certification for structures in the 100-year (A) flood zone.
 - C. The Town will consider amendments to our Flood Ordinance which addresses freeboard and other flood mitigative measures recognized by FEMA and the CRS program to reduce flood losses.
6. The Town shall consider higher flood regulatory standards for vehicle and equipment storage areas and structures or facilities that produce, use or store highly volatile, flammable, explosive, toxic and or water-reactive materials that may cause environmental problems if flooded or destroyed. (Highest Priority)

Implementing actions

- A. The Town shall develop a program to identify businesses and material storage areas where significant amounts of toxic or hazardous products are stored which would be subject to flooding.

- B. The Town shall develop regulations to require fuel tanks, including LP tanks to be adequately anchored to prevent flotation or submersion in the event of flooding.
- 7. The Town will work with and petition NCDOT for (1), the necessary road improvements in getting people to the town, (2) finding ways to reduce the number of vehicles and reduce traffic congestion within the Town on US 158 and (3), increase efficiency on NC 12 and US 158. Such improvements including, but not limited to medians, a flyover at Whalebone Junction, signal coordination, new signals or the removal of existing signals. (High Priority)

Implementing actions

- A. The Town will annually review and forward to NCDOT through the TIP process transportation improvement projects, studies, and improvements desired by the Town.
- 8. **Thoroughfare Plan.** The Town conceptually accepts the Outer Banks Thoroughfare Plan dated March 1996 and Town supports improvements, such as adding grassed medians where appropriate on US 158 which are designed to enhance safety for citizens and visitors, however the Town does not favor improving those cross streets which have been identified by NCDOT in the connecting NC 12 and US 158 until a need has been demonstrated. (High Priority)

Implementing actions

- A. The Town will work with NCDOT to request changes to the Plan which reflect the current road and traffic conditions within the Town.
- B. The Town will work with NCDOT to adequately represent “paper streets” and will resist the withdrawal of existing unimproved streets unless it can be shown that such a withdrawal is in the public good.
- 9. **Town Streets.** The Town will evaluate all future development for its impact on traffic congestion and manage this development so as to minimize its impact on traffic. More specifically, the Town encourages development to exit on side streets rather than South Croatan Highway. (Highest Priority)

Implementing actions

- A. The Town will develop regulations limiting access to US 158; NC 12, NC 1243 and US 64-264 when access can be obtained either through a side street or common drive aisle.
- B. The Town will consider developing regulations which addresses multiple cut cuts onto Town streets.

10. During the subdivision process the Town shall require wider rights-of-ways and greater construction standard to proposed town streets when it can be demonstrated that the proposed street may be required to accept local traffic from other nearby streets which may be damaged or threatened or closed by natural events. (Low Priority)

Implementing actions

- A. The Town will develop regulations requiring a greater street standard (dimensional and construction) where it can be reasonable demonstrated that near-by streets may be destroyed by a storm or other natural event and the proposed street will be required to accept greater amounts of traffic due to the loss of near by streets.
11. **Sidewalks.** The Town places a high value on and encourages the use of alternative means of transportation including sidewalks. The Town will lobby and work with NCDOT for construction of a detached multi use path along the east side NC 12. The Town will cooperate with NCDOT and other municipalities in developing a coordinate pedestrian multi-use path on the Outer Banks. (Highest Priority)

Implementing actions

- A. The Town will review and update the Nags Head Pedestrian Transportation System Plan adopted on November 6, 1996.
- B. The town will submit funding requests through the CIP and budget process for the implementation of the five and ten year plans and shall coordinate these plans with NCDOT when appropriate
- C. The Town shall consider incentives for commercial development which provide pedestrian and bicycle amenities (e.g., sidewalks, bike racks) to improve circulation within and to their site.
12. The Town will continue to install sidewalks within Town right-of-ways to facilitate pedestrian traffic and movement to recreational sites and amenities and other areas which generate pedestrian traffic when the need is demonstrated. The Town will install these sidewalk improvements to correspond with existing and proposed NCDOT's signalization plan. (High Priority)

Implementing actions

- A. The Town will identify recreational sites where sidewalks would facilitate pedestrian traffic to these recreational facilities and will submit funding requests through the budget and CIP process.
13. The Town shall consider requiring the installation sidewalks and other pedestrian facilities as part of the required infrastructure and improvements for new subdivisions. (Low Priority)

Implementing actions

- A. The Town will consider amendments to the subdivision ordinance requiring the installations of sidewalks in areas identified in the “Nags Head Pedestrian Transportation System Plan”.
- 14. The preferred form of sewage treatment and disposal shall be the on-site septic systems. The Town realizes that proper maintenance of septic systems and strict enforcement of local and state rules are essential for their safe operation and through the Septic Health Initiative Committee. The Town shall develop a Management Plan as well as preventative and educational programs for distribution to residents and visitors designed to identify and correct failing septic systems. (Highest Priority)

Implementing actions

- A. The Town shall develop a management plan and educational program to implement the above actions.
- 15. Proper placement and maintenance of septic systems located in close proximity to drainage ditches or located near the ocean or sound are essential for maintaining high water quality standards. When septic systems fail, effluent can enter these waters and lead to health concerns and closures. The Town does not consider a water classification of SB or SC acceptable and will support research to determine the sources of pollution and consider or lobby for additional regulations or enforcement of existing regulations to prevent further degradation and shall seek measures to enhance water quality where needed. (High Priority)

Implementing actions

- A. The town shall apply for grant funds for projects that are designed to improve or prevent further degradation of water quality of our ocean and sound system.
- B. The Town will fund or assist in funding a water quality-testing program.
- C. The Town shall seek funding and shall support water quality testing of the ocean and sound waters to determine the extent, if any of non-point sources of pollution
- D. The Town shall seek strict enforcement of existing laws and regulations and shall consider new regulations, if needed, to protect estuarine and ocean water quality.
- 16. The Town shall continually assess and evaluate the Stormwater Management Plan and update the plan when necessary and shall actively work to minimize the rate and amount of stormwater runoff into ocean

and sound waters and the impact that stormwater has on those waters.
(Low Priority)

Implementing actions

A. The Town shall review the adequacy and amend as need the Stormwater Management Plan.

17. The Town recognizes that maintenance is essential for the proper functioning of the ocean and sound outfalls shall actively lobby NCDOT for continued maintenance. The Town will work to eliminate existing ocean and estuarine outfalls when economically viable alternatives exist for land disposal. (Priority)

Implementing actions

A. The Town will investigate the feasibility of land disposal and storm water retention in leu of outfalls and shall seek funds and grants or lobby NCDOT where the feasibility exists for land application of stormwater.

18. The Town recognizes that when ocean beaches and estuarine areas and waters are closed for health reasons, proper public notification of the closures is essential for public safety. The Town will work with the respective regulatory agencies to develop a protocol and to ensure that public notification is released in a timely manner after careful monitoring has indicated that the agreed upon standards have been exceeded. (Priority)

Implementing actions

A. The Town will initiate meetings with the County to develop and establish water quality and monitoring standards and to develop a protocol for public notification when beaches and waters are closed for health reasons.

19. The Town shall continually assess the Town's water processing capacity, storage capacity and distribution system along with monitoring adequate pressure and fire supply and shall make the necessary system improvements when needed. The Town recognizes the importance of a dual or looped water supply system for pressure, service and fire supply and will continue to loop the system when opportunities and funding permits. (Low Priority)

Implementing actions

A. The Town shall develop a five-year and 20 year improvement plan and request funding through either the budget or CIP process to implement that plan.

20. The Town realizes that vacation rentals and seasonal rentals, and particularly, the rental of large oceanfront homes, while promoting the single-family tourist rental economy, can significantly impact Town municipal resources and infrastructure. The Town shall comprehensively review impacts that these large structures have on the resources, municipal services, and neighboring properties and amend zoning and Town regulation accordingly. (High Priority)

Implementing actions

- A. The Town will consider expanding the scope of the vacation rental impact committee to address impacts caused by the rental of high occupancy vacation and seasonal homes.
 - B. The Town will not amend the zoning ordinance or any development regulation which would result in either increased density (units/acre) or increased intensity of these homes.
21. The Town will maintain its relative self-sufficiency by providing adequate services and amenities for residents and visitors and shall provide municipal services in a flexible, cost effective, customer friendly manner. The Town will continue to review and modify fees as needed, including the addition of new facilities fees to pay for new and continued development of Town infrastructure while requiring private development to fund the installation of infrastructure needed by the proposed development. (Priority)

Implementing actions

- A. The Town will review and update as needed land development fees in the adopted fee schedule and level of service provided by those fees.
22. As the existing housing stock ages, the Town shall consider incentives and regulations to help ensure that the replacement housing stock is in keeping with the “Nags Head image”. (Low Priority)

Implementing actions

- A. The Town will develop an incentive program designed to help ensure that replacement housing will be in keeping with the “Nags Head image” or vernacular.
23. Open space and green space are important elements in the Nags Head image. The Town will inventory open space, actively pursue grants and funding opportunities and develop and implement a plan to acquire and preserve open space throughout the Town. (Highest Priority)

Implementing actions

- A. The town will identify important areas to be acquired as open space and shall request funds for acquisition of these areas through the budget, CIP, and grant process.
 - B. The Town will consider an incentive program rewarding those developers which set aside additional open space in perpetuity
24. The historic district represents an irreplaceable part of the Nags Head image and past. The Town shall carefully consider any proposed land use change-not only within the district, but near by that would diminish the uniqueness of the homes in the district. The Town will promote the creation of a historic district to preserve the historic beach front cottages but will not establish such a district until a majority of the affected property owners support it.(Low Priority)

Implementing actions

- A. When requested and supported by a majority of the affected residents, the Town will establish an historic district.
 - B. The Town will continue to amend the zoning ordinance by adopting provisions designed to protect the uniqueness of homes on the National Register of Historic Places.
25. The Town shall continue to address community appearance concerns through the existing boards (Planning Board, Citizens Advisory Committee and Board of Commissioners). The Town shall work toward developing incentives designed to enhance, promote and protect the Town's architectural image and heritage and will consider the creation of an Appearance Commission and or a Corridor Commission to promote the general appearance of the Town. (High Priority)

Implementing actions

- A. The town will investigate the feasibility for an architectural incentive program.
26. The Town views the preservation of dunes, vegetation and topography as an important component in the Nags Head image and shall strictly enforce the existing applicable rules and regulations and seek additional measures as needed to preserve these elements as much as possible. (High Priority)

Implementing actions

- A. The Town will consider applying similar rules and regulations that are applicable for residential districts in the commercial districts for the preservation of dunes, topography, and vegetation

27. The Town recognizes that damaged homes and structures on the oceanfront represent a nuisance, eyesore and visual blight and the Town shall take appropriate measures to abate this nuisance and will seek changes in NFIP regulations to establish realistic regulations for declaration of destroyed structures. (Highest Priority)

Implementing actions

- A. The Town will take a more proactive approach to condemning these structures and taking prompt action including the issuance of civil citations to abate the nuisance.
 - B. The Town will petition FEMA through our state and regional NFIP representatives to consider adopting realistic regulations regarding the determination of destroyed structures.
28. The continued success of the Town as a tourist and vacation destination depends in part on the continued use and expansion of recreational uses and activities on the ocean shoreline and in the sound. The Town shall provide an adequate mix of recreational access sites for residents and visitors in order that they can enjoy the ocean and estuarine shoreline and water recreational opportunities. (High Priority)

Implementing actions

- A. The Town will continue to apply for grants for ocean and sound access sites.
 - B. The Town shall consider establishing larger, less traditional estuarine access sites that can function as access sites but also shore recreation areas and parks.
29. The Town shall actively plan and seek funds for the development of traditional recreation uses as the needs are identified and shall consider acquiring and developing small neighborhood recreation areas as funds become available. (High Priority)

Implementing actions

- A. The Town shall through the recreation committee identify funding opportunities for expansion of recreation facilities including parks, play areas and large recreation areas.
 - B. The Town shall address recreational needs through the budget and CIP process.
30. The Town shall pursue the designation of Nags Head Woods as an Area of Environmental Concern (AEC). (Low Priority)

Implementing actions

- A. The Town will investigate the need for designation of the Woods as an AEC, and shall petition the Division of Coastal Management for AEC designation if desired.
- 31. It is the policy of the Town to continually assess the police, fire and rescue needs of the Town and to make personnel and resource expenditures commensurate with the needs created by development and the changing nature of the social environment. (Priority)

Implementing actions

- A. Public safety funding requests shall be handled through the budget and CIP process.
- B. The Town shall identify grant opportunities, as they become available.
- 32. The Town shall consider the impact on public safety during the review of site plans and during consideration for proposed changes to the zoning ordinance and shall encourage the use of sprinkler systems, stand pipes and the provision for fire lanes as important fire prevention measures.(Priority)

Implementing actions

- A. The Department of Public Safety shall recommend changes to the Town code as conditions warrant.
- 33. The Town shall provide the most effective and economical methods for the collection, disposal, and recycling of solid waste. (Priority)

Implementing actions

- A. The Town shall periodically review existing practices to determine the most effective and economical methods for collecting and processing of solid waste.
- 34. The Town will assess the effectiveness of its communication efforts with residents and non-resident property owners. (Highest Priority)

Implementing actions

- A. The Town will publish four newsletters a year.
- B. The Town will continue to update the Town's web page and add additional components as needed.

Table 24.1. Interrelationships of Policies		Mission and Vision Statements	Ocean shoreline management/protection	Estuarine shoreline management/protection	Hurricane and coastal storm hazard mitigation	Traffic and transportation	Wastewater disposal/water quality	Stormwater control	Water supply and distribution	Economic development	Housing	Visual and aesthetic resources	Recreation and open space	Nags Head Woods	Police and fire protection	Solid waste	Public participation/Intergovernmental coordination
Policies *																	
1	Beach nourishment as our preferred alternative However, the Town also supports a variety of other methods to abate the impacts of ocean erosion	•	•		•	•				•	•	•					
2	Beach nourishment; commensurate funding; and statewide beach management strategy, and policy with dedicated funding	•	•														
3	Important elements of our ocean beaches	•	•		•		•			•		•	•				
4	The Commercial-Outdoor Recreational Uses Overlay Zoning District	•		•	•		•	•		•		•	•				
5	Mitigation and innovative programs	•	•	•	•			•		•							
6	Higher flood regulatory standards	•	•	•	•			•									
7	NCDOT and road improvements	•				•											
8	Thoroughfare Plan	•				•				•							
9	Town streets	•				•				•							
10	Wider street right-of-ways for certain Town streets	•			•	•				•							
11	Sidewalks and NCDOT	•	•			•				•							
12	Sidewalks and Town streets	•				•				•							
13	Sidewalks and pedestrian infrastructure improvements for new subdivisions	•				•				•							
14	On-site septic systems as preferred method of sewage treatment and disposal	•	•	•			•			•	•						
15	Need for additional water quality regulations and enforcement	•	•	•			•										
16	Evaluate and update the Stormwater Management Plan	•		•				•									
17	Maintenance of stormwater outfalls by NCDOT and alternative methods for land disposal of stormwater	•	•	•			•	•									
18	Proper public notification and protocol for ocean beach health closures	•	•	•			•										
19	Assessing the Town's water processing capacity, storage capacity, and distribution system needs	•							•	•							
20	High occupancy vacation and seasonal rental houses	•	•							•	•	•				•	

Table 24.1. Interrelationships of Policies		Mission and Vision Statements	Ocean shoreline management/protection	Estuarine shoreline management/protection	Hurricane and coastal storm hazard mitigation	Traffic and transportation	Wastewater disposal/water quality	Stormwater control	Water supply and distribution	Economic development	Housing	Visual and aesthetic resources	Recreation and open space	Nags Head Woods	Police and fire protection	Solid waste	Public participation/Intergovernmental coordination
Policies *																	
21	Town self-sufficiency, adequate services and amenities in a flexible, cost effective, customer friendly manner	•							•	•						•	
22	Aging housing stock, incentives, regulations, and the "Nags Head image"	•									•	•					
23	Open space and green space	•	•	•								•	•	•			
24	The historic district	•	•									•					
25	Community appearance, architectural image, and heritage	•								•		•					
26	Preservation of dunes, vegetation, and topography	•	•	•	•					•		•	•	•			
27	Storm damaged homes and structures on the oceanfront	•	•		•		•		•	•	•	•					
28	Expansion of ocean and estuarine recreational access sites, uses and activities	•	•	•						•		•	•				
29	Development of traditional recreation facilities	•								•		•	•				
30	Designation of Nags Head Woods as an Area of Environmental Concern	•										•	•				
31	Assessing the needs of police, fire, and ocean rescue	•													•		
32	Fire protection, site plan review, and zoning	•													•		
33	Effective and economical methods for the collection, disposal, and recycling of solid wastes	•									•	•				•	
34	Communication with residents and non-resident property owners	•															•

* See discussion for full text of policies.

Chapter 25.

Land Classification System

The land classification system provides a means of assisting in the implementation of policies adopted in the Land Use Plan. By delineating land classes on a map the Town can specify those areas where certain policies (local, state, and federal) will apply. The land classification system as required by CAMA is intended to be supported and complemented by zoning, subdivision regulations, and other local land use management tools, and these tools should be consistent with the classification system as much as possible.

The land classification system further provides a framework to be used by the Town to identify the future uses of all lands. The designation of land classes allows the Town to illustrate their policy statements as to where and to what density or intensity the Town wants growth to occur, and where the Town wants to preserve natural and cultural resources by guiding growth.

Land Classification Classes

The land classification system can include seven classes: Developed, Urban-Transitional, Limited-Transitional, Community, Rural, Rural with Services, and Conservation. Local governments may subdivide these classes into more specific subclasses. For Nags Head three classes have been applied to this land use map: Developed, Limited-Transitional, and Conservation. The other four classes are not applicable to Nags Head.

Developed Class

The purpose of the developed class is to provide for continued intensive development and redevelopment. Developed areas are urban in character and include mixed land uses such as residential, commercial, industrial, institutional and other uses at high to moderate densities. Town services including water, streets and roads, and police and fire protection are provided to some extent in the Developed land class. The developed class for this land use plan is subdivided into two categories. Subclasses refer to land currently in high intensity use relative to the remainder of the Town.

Subclass D-1

Portions of this area are now intensively developed with mixed land uses at high to moderate densities. Intensive residential and commercial

development is expected to continue. When reconstruction occurs it would be at the present level of intensity.

Subclass D-2

Some of this area is currently developed at the same intensity as the land in D-1. When redevelopment occurs it shall be at the current level of density and intensity allowed by the Zoning Ordinance at the time of redevelopment.

Limited-Transition Class

The purpose of the limited-transition class is to identify land slated for future development. The lands must be suitable for development and can be provided with the necessary urban services. Limited-transition areas are those which are currently under development or will be developed in the next five to ten years to accommodate anticipated population and urban growth. Limited-transition areas will provide land for development when the developed lands are no longer available. Two subclasses of limited-transition lands are proposed. Limited-transition subclass T-1 identifies land on which relatively high intensity development will not be opposed by the Town. Subclass T-2 depicts land on which low intensity development is preferred.

Subclass T-1

These areas will provide for future mixed land uses at moderate densities. Services including water, streets, police and fire protection can be made available if they do not already exist. The predominant lot size in this area is 15,000 square feet.

Subclass T-2

These areas will provide for predominately residential growth at low densities. For new subdivisions of land other than in the SPD-C district, lot size will be 20,000 square feet or larger. T-2 areas will also serve as a buffer between the more intensively developed areas and the less developed conservation areas.

Conservation Class.

The purpose of the conservation class is to provide for the effective long-term management and protection of significant, limited or irreplaceable resource areas. Conservation areas should be developed in a cautious fashion, recognizing the environmental sensitivity of these areas. Two subclasses for conservation areas are proposed: E-1 (Environmental-1) and E-2 (Environmental-2).

Subclass E-1

These are areas which are environmentally significant lands because of their natural role in protecting the ecology and integrity of the coastal region. They include areas containing hardwoods, swamp forests, areas of wildlife habitat and contain significant productive, natural, scenic, cultural or recreational resources which make the region a desirable place in which to live, work, and visit. Conservation subclass E-1 should be developed in a manner which offers the greatest amount of protection of those natural resources. Urban services should not be provided to stimulate intense development. Maximum density, for land not currently subdivided, should be approximately one residential unit per two acres.

Subclass E-2

These areas include AECs, public trust waters, estuarine waters and estuarine wetlands, the ocean beaches, Jockey's Ridge State Park, the Town-owned portions of Nags Head Woods. Allowed uses on these lands would be limited to only those uses allowed by the Zoning Ordinance at the time of consideration of the proposed use.

Chapter 26.

Citizen Participation and Meetings

April 10, 1996. Advisory Committee Scoping Session

The initial meeting for the preparation of the questionnaire was a “scoping” meeting. the purpose f the meeting was to identify important issues and concerns to be addressed in the Citizen Questionnaire. Following a review of the 1990 citizen survey effort, the Advisory Committee identified __ growth issues and concerns.

May 1, 1996. Advisory Committee Work Session

May 15, 1996. Advisory Committee Work Session

The purpose of this meeting was to review the results of the previous meetings, and to pre-test and review a preliminary draft of the questionnaire.

June 5, 1996. Board of Commissioners Meeting

This meeting was held to provide the Board of Commissioners the opportunity to review the draft of the questionnaire report, taking into consideration the comments received from the Advisory Committee, as well as the Commissioners’ own perspectives on how best to address various issues.

November 6, 1996. Presentation of survey results to Board of Commissioners

November 5, 1997. Presentation of Model Mitigation Plan and draft Land Use Plan policies to Board of Commissioners

July 15, 1998. Workshop with Board of Commissioners and Planning Board

July 29, 1998. Workshop with Board of Commissioners and Planning Board

September 16, 1998. Workshop with Board of Commissioners and Planning Board

October 7, 1998. Workshop with Board of Commissioners and Planning Board

May 19, 1999. Workshop with Board of Commissioners and Planning Board

July 21, 1999. Workshop with Board of Commissioners and Planning Board

August 26, 1999. Meeting with Land Use Plan Committee

October 21, 1999. Meeting with Land Use Plan Committee

February 2, 2000. Meeting with Land Use Plan Committee

March 8, 2000. Workshop with Board of Commissioners and Planning Board

May 23, 2000. Workshop with Board of Commissioners and Planning Board

June 20, 2000. Planning Board reviews Plan

June 20, 2000. Plan available for public review

August 2, 2000. Public Hearing

September 6, 2000. Adopted by the Nags Head Board of Commissioners.

September 29, 2000. Approved by the North Carolina Coastal Resources Commission

Chapter 27.

Glossary

1. *Area of Environmental Concern (AEC)*. AEC's are areas where poorly sited development could damage sensitive natural resources, and they are areas where a CAMA permit is required. AEC's include ocean hazard areas (ocean shorelines), estuarine system, public water supply areas (Fresh Pond), and natural and cultural resources.
2. *CAMA*. The Coastal Area Management Act. A State program developed to follow the federal Coastal Zone Management Act regulating development in twenty coastal counties. The Division of Coastal Management (DCM) is the primary state agency administering the Coastal Area Management Act.
3. *Cottage court*. A type of residential development characterized by multiple residential buildings and dwelling units on a single lot.
4. *CRS*. Community Rating System of the National Flood Insurance Program. A voluntary program where the Town agrees to perform certain activities, e.g. track elevation certificates, hurricane and storm information dissemination, etc. and in return flood insurance premiums for individuals in a special flood hazard area (AE and VE flood Zones) are reduced.
5. *CZMA*. The Coastal Zone Management Act (CZMA) is the primary Federal program for protecting the nation's coastal areas from pollution and development pressures.
6. *Extraterritorial Zoning Jurisdiction (ETJ)*. An area over which a municipality exercises building and land use jurisdiction as allowed by North Carolina law. State statute allows municipalities to extend their planning jurisdiction up to one mile from their corporate limits.
7. *Family beach atmosphere*. A general term denoting uses and activities that are healthy and embraced by the traditional family. Common attributes identified by the respondents in the 1996 Land Use Survey for preservation of the "family Beach" included: low building height and densities, open space, single-family housing and old historic. The least important was amusements and commercial development.

8. *FEMA*. Federal Emergency Management Agency
9. *FIA*. Federal Insurance Administration
10. *FIRM*. Flood Insurance Rate Map
11. *Gallery Row*. An area in Town including the Village Commercial District. The primary uses in this district include art galleries and other small scale business operations dealing primarily in the arts and craftsmen.
12. *Incipient inlet*. A land area that due to its unique topographical features and proximity to water bodies that an inlet connecting the ocean to the sound could form in this area.
13. *MGD*. A term used to indicate the volume in gallons of liquid that is “pumped over a specific time period such as a day in million of gallons (mgd) or gallons per hour (gph).
14. *Nags Head image*. An image of Nags Head best typified by the homes and the architecture of the homes in the “historic District”.
15. *Nags Head Woods*. A general term referring to the maritime forest on the western most extensions on land areas in the northern section of Nags Head.
16. *NFIP*. National Flood Insurance Program
17. *Project Impact*: Building a Disaster resistant community. Project Impact is a voluntary initiative of the Federal Emergency Management Agency designed to encourage businesses and communities to undertake actions to reduce the effects of natural hazards through collaboration, preparation and implementation of actions that protect families, businesses and communities.
18. *PWC*. Personal water craft. A type of recreational watercraft that uses an inboard motor powering a water jet pump as its primary source of power. At times a PWC were called a “jet ski” which is a copyrighted trademark for one of the PWC manufactures.
19. *Seasonal rental dwelling unit*. A dwelling unit, or units which are used to house large numbers of unrelated individuals generally during the peak summer season.
20. *Shoulder season*. A term that refers to the off peak summer tourist season generally running from fall through early spring.
21. *Single-family dwelling unit*. A detached building designed for or occupied exclusively by one family.

22. *SPD-C. Special Planned Development-Community District.* A zoning district which allows for a planned unit development where typically home and businesses are concentrated in one area with “open space” occupying another are of the unified tract. The Village of Nags Head was developed as a special planned development community.
23. *The Village at Nags Head.* A special planned development-community (SPD-C)
24. *US Army Corps of Engineers.* COE, USCOE. A federal agency responsible to certain wetland determinations and permitting development in wetlands as well as a federal agency responsible to the protection of certain migratory animals, such as sea turtles with beach bulldozing operations.
25. *Water consumption unit.* The amount of water used by a particular use in one day. In Nags Head one WCU is equivalent to the amount (400 gallons) of water used by a single-family home during a day in the peak season.